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Summer
Volume 18
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*The Association
for College
and University
Technology
Advancement*



JOURNAL

FINANCIAL REVENUE CHALLENGES BUDGETS INVESTING

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**Funding the Enterprise:
Managing Money and More**

Show Me the Money!

Campus Efficiencies

**How Do You Justify Technology
Purchases?**

**CIO and CFO Partnerships:
Understanding Strategic Links**

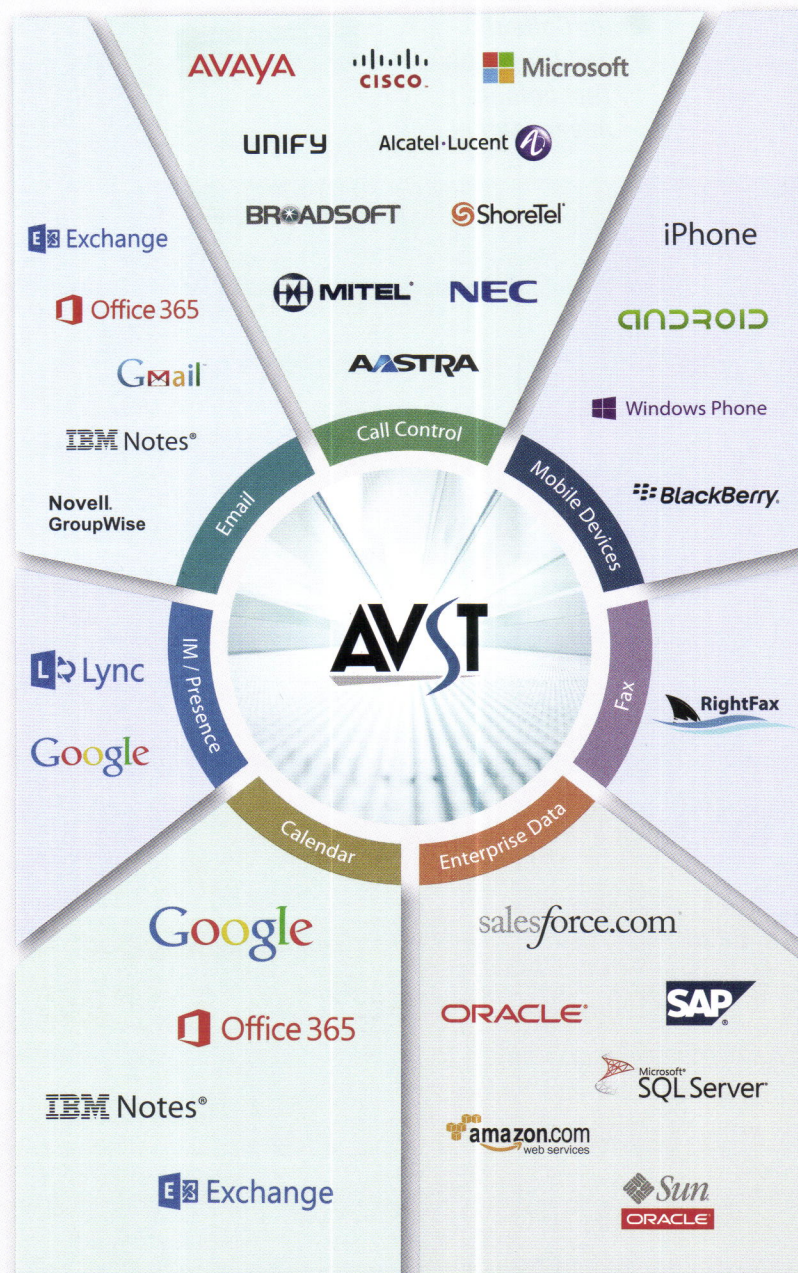
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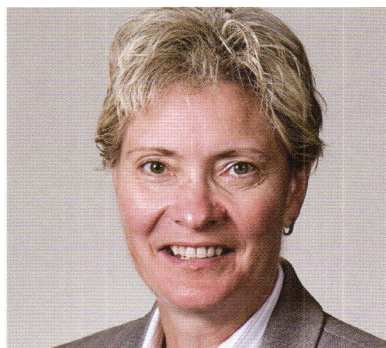
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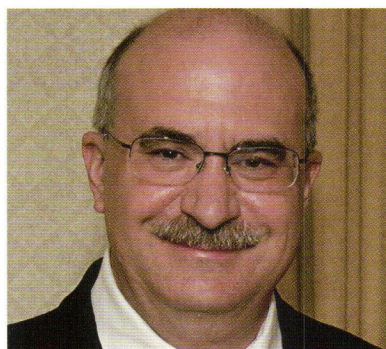
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Quotes of Note



When you need approval for funding a project, propose a dependable, cost-effective technology solution and explain with enthusiasm how people—real people with names and titles—will benefit. The personal touch does matter.

Jennifer Van Horn
Executive Director,
Information Technology
Kelley School of
Business
Indiana University



Our provost reminds us that we are all stewards of the university's resources. We have to justify how money is spent. What we do must always tie to the mission of the institution.

Charles Bartel
Director, Global IT
Services
Carnegie Mellon
University

The Year Ahead

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43rd Annual Conference	April 19 – 22, 2015	Hyatt Regency Hotel Atlanta, Georgia

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ACUTA's core values are to:

- encourage and facilitate networking and sharing of resources
- exhibit respect for the expression of individual opinions and solutions
- fulfill a commitment to professional development and growth
- advocate the strategic value of communications and collaboration technologies in higher education
- encourage volunteerism and contributions by individual members



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A strong partnership between CIO and CFO consists of honest communication, transparent financial exchange, and clear translation of expenditures to outcomes.

Keith Fowlkes, Centre College

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You don't have a cost problem, you have a revenue problem. Get out there, meet your potential customers, find out what they need, produce it, and sell it. The costs will take care of themselves when you have a revenue stream.

Cathy O'Bryan, Indiana University

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PRESIDENT'S MESSAGE

The Challenge—Funding the Enterprise: Managing Money and More

by Mark Reynolds
University of New Mexico
ACUTA President, 2014–2015

As in many other states, higher education in New Mexico continues to see reductions in state funding, which is based on a state funding formula. This formula is viewed with some skepticism, as it pushes the burden for funding in all areas back on the university. The funding models—especially for IT—are antiquated and cannot be sustained any longer.

In the past, the IT department was viewed as the “cash cow” that funded many projects on campus. Basic services that everyone needed, such as phones,

Internet connections, and more, provided a reliable revenue stream. Now, however, everyone expects to have access to all the new technologies and services available in the private

sector at little or no cost. This requires major upgrades and implementation of new technology for the university, which has very limited sources of funding and a limited customer base. We simply cannot compete with the private sector, which has unlimited resources and hundreds of thousands of customers.

no cost. This requires major upgrades and implementation of new technology for the university, which has very limited sources of funding and a limited customer base. We simply cannot compete with the private sector, which has unlimited resources and hundreds of thousands of customers.

Since the decline in the economy in 2009, the state funding formula has provided decreasing funds, which pressures departments to reduce costs without impeding business or scholastic conti-

nity. In order to avoid raising tuition, many institutions are holding in reserve a percentage of current state funding to be used for future compensation. This further restricts the funds available for salaries. Hiring replacements for the retiring Baby Boomers is an expensive proposition. This, coupled with losing experienced employees to higher-paying jobs in the private sector, adds another dimension to the funding shortfall.

IT organizations have to decide if it is more cost effective to ask existing staff to absorb the work and expand their knowledge base or to look for new technologies and support models by outsourcing to consultants or third-party vendors. However, the salary savings from these options would be offset by training and travel expenses for staff and fees paid to consultants or vendors. Expecting more from current staff has many implicit costs that could be more expensive for the organization in the long run, such as overtime pay, higher stress levels, low employee morale, more sick time taken, and more.

In order to ensure that IT is operating as efficiently as possible, the following examples of cost-saving measures are being considered or are already in place here at the University of New Mexico:

- Keeping product inventory on hand replaced with just-in-time material orders
- Outsourcing to vendors/contractors services such as installations, moves, and changes
- Tighter controls by the IT CFO's office on spending and burn rates (cash flow), including justification of spending requests
- Cost study to formulate new cost models
- Review of grant opportunities to bring in funding resources for IT projects and programs
- Partnering with other higher-education institutions for maintenance contracts to control costs on a larger scale
- Reducing travel, training, and conferences with stricter justification to validate the need, along with more online training
- Negotiating existing contracts with vendors to reduce overtime by off-shifting work, reducing overhead, and scheduling maintenance during business hours if the risk is low
- Implementing cloud-based versus onsite services
- Reducing duplicated IT services within the university (IT central services)
- Evaluating IT core services and eliminating or phasing away from services that IT should not provide or that are not cost effective
- Migrating to SIP-based services versus digital (TDM) trunking
- Migrating to VoIP-based services (reducing hardware footprints, cooling, power requirements)

Even as enrollment increases, universities are finding it difficult to offset the decline in state revenue by raising tuition. Raising tuition does not address the overall funding issues for higher education. Universities must change the method of funding essential IT services and support, as they are part of the university's core mission and are critical to business continuity. Removing desk phones, voicemail, and automatic call distribution (ACD) systems would obviously have a negative

impact on how the students, staff, and faculty interact on a basic level.

Key issues, as reported in the 2014 ACUTA/NACUBO/ACUHO-I State of the ResNet Report (download it at www.acuta.org/resnetreport2014) are:

- Demand for more bandwidth
- Robust, ubiquitous wireless and mobile connectivity
- 24/7 support models
- Better tools to diagnose and communications for greater effectiveness
- Rising ResNet costs

These issues show that the demand continues to grow and the expectation for higher education is to stay in step with the private sector. But the private-sector model has hundreds of thousands of users to offset the cost of standing up these services, whereas higher-ed funding models have not changed to do the same.

What has changed at many universities is that the IT funding model no longer sustains IT support, growth, or core services, nor does it address the overall shortfall in the IT budget. As the CIO looks for strategies to formulate new methods of funding, the business units are working to “keep the lights on” and are expected to look for ways to generate revenue—which is not their core competency. Because salaries are the biggest expense in an IT organization, it is necessary to evaluate the current cost and budget model versus the hybrid approach of providing an IT service.

Chargeback models have been at the core of IT/voice for the past 30 years, and flat rate, time, and material had their place and purpose. If an overall higher education approach is not taken—which would treat IT core services the same as other university core services and be recovered through overhead—then service-based pricing may be the next migration path for IT.

The issues of budget shortfalls, staff burnout and low morale, risks, reliability, and enterprise- versus cloud-based services are all driven by the reduction in funding sources and IT trends in higher

education. Ten years ago this was not the case. Funding was strong, and services were robust and reliable but at a high price (staffing, hardware, and software). Refresh cycles were five to ten years out. The IT department was the only service available, and there was little pressure to compete with the private sector. Now, proprietary versus commodity models are pressuring higher education to accommodate students, staff, faculty, and nonuniversity visitors who expect their experience to mirror what they have in the commercial environment.

Clearly, no one path will enable higher education or IT organizations to support the expectations of our customers, making it inevitable that the current trends in technology and the funding requirements to sustain them will require significant changes in the way university

IT services are provided. This is a challenge that must be carefully considered in the strategic planning process.

The pending Baby Boomer retirements within the next three to five years will also have a huge impact on how universities provide services and the development of new cost models. The resulting reduction in the workforce will have as large an impact as the reduction in funding. The commercial support model may eventually have to become the norm to mitigate the loss of this labor force and to curtail costs by outsourcing more of these functions.

Note: The expectation and use of technology is showcased in the YouTube video “#Socialnomics 2014 by Erik Qualman”: <https://www.youtube.com/watch?v=zxpa4dNVd3c>.

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FROM THE CEO

State of the ResNet Report: ResNet Trends and Practices Across Higher Ed

by Corinne M. Hoch, PMP
ACUTA CEO

ACUTA, NACUBO, and ACUHO-I are pleased to present research findings from the 2014 ACUTA/NACUBO/ACUHO-I State of the ResNet study.

The third installment of a comprehensive five-year tracking study measures the pulse in residential networks (ResNet) practices and policies in higher education. The goal is to provide year-over-year analysis and report on evolving trends. New this year, the scope has widened and represents nearly twice as many stakeholders, with over three times the number of chief business officers responding compared to last year. It is also the first time that ACUHO-I partnered with ACUTA and the first time that respondents extend beyond information technology and chief business officers to include housing officers.

The research, which includes data from more than 400 higher-education institutions, is designed to help administrators and chief business officers address such issues as the unprecedented growth in bandwidth and connectivity demands, budget restrictions, planning, policy considerations, staffing, and support. These insights will make it possible for colleges and universities to better meet the challenges of today while fostering greater

collaboration and planning to meet the challenges of tomorrow.

“The ACUTA/NACUBO/ACUHO-I study reveals that schools are making strides in providing better coverage and bandwidth, but are grappling with a laundry list of needs—holistic planning, better communication between departments, tighter security, and more—while processes such as resource allocation and diagnostics haven’t kept pace,” says Dee Childes, chair of the ACUTA Environmental Scanning Committee and CIO at the University of Alabama. “Administrators are trying to build bigger and better networks with yesterday’s tools. It’s our hope that this study will provide a knowledge base of practices and priorities to help administrators anticipate, plan ahead, and address the challenges as they scale infrastructure to meet demand.”

For the purposes of the study, ResNet is defined as Internet, cable television, and phone service available to residents living in on-campus residence halls. The following 2014 ResNet Trends and Practices report works to further explain the current state of ResNet from the perspectives of IT, business, and housing officers. It also explains how universities and colleges are reacting to the diverse and

quickly evolving challenges of ResNet services. The report delves into the following topics: bandwidth management, wireless coverage and capacity, service and support, planning and measuring, funding and technology costs, and outsourcing. The survey reveals the following:

Schools are exploring ways to accommodate demand for more bandwidth.

- Increasing bandwidth, rather than shaping and limiting bandwidth, is a more popular approach to bandwidth management that schools are using to cope with demand.
- Three out of four institutions allow an unlimited number of devices to be connected to the residential network.
- The number of schools offering speeds of 1 GB or more jumped by 25 percent.
- Bandwidth management practices declined slightly, the most popular practice being limiting by shaping protocol.
- The number of respondents who outsourced or considered outsourcing some or all ResNet services to trim costs has jumped from 22 to 32 percent.
- Schools are more likely to outsource email and bookstores than to outsource ResNet.
- Tablets are expected to be the device that consumes the most bandwidth in the coming years.

More schools are providing robust wireless and mobile connectivity.

- More than 61 percent of universities and colleges now provide robust wireless coverage (four bars or more) throughout 81 to 100 percent of their campus, a 16 percent increase from 2013.
- Campuses offering poor wireless connection (0–20 percent of their campuses) declined almost 11 percentage points from last year.
- Administrative or academic areas rank at the top for wireless connectivity, while residential areas, such as residential rooms and dining facilities, ranked last.
- The number of schools that are considering augmenting cellular reception declined by 20 percent.

NACUBO is the National Association of College and University Business Officers. ACUHO-I is the Association of College and University Housing Officers—International.

More types of support are available, but 24/7 support is still scarce.

- Schools are utilizing newer channels, such as texting, live chat, and social media to meet communication preferences.
- Only 13 percent of schools provide 24/7 support, 30 percent provide more than 60 hours of support, and 32 percent provide 41 to 60 hours of support.
- Traditional methods of communications remain strong. Phone support and support through online documentation have increased for all devices over the past year.

More plans are in place now, but better diagnostics and communications are needed for greater effectiveness, according to the survey.

- The number of schools with strategic plans in place grew by 27.8 percent, but one-third of schools still do not have a plan, and another 9 percent were unsure if they have a plan.
 - One in five officers does not meet with its business, IT or housing counterparts to discuss the ResNet.
 - Although 64.7 percent of housing officers and 68.3 percent of chief business officers would like to be able to benchmark their ResNet services, 55 percent of them do not have access to benchmarking data. Three out of four housing and chief business officers are unhappy with the data/reports they have received.
 - Although security is valued highly by chief business officers, more than a third of schools do not have an Information Security and Internal Audits (ISO) team.
- ### Schools are adopting different models to cope with rising ResNet costs.
- 56.2 percent of chief business officers and 40.3 percent of housing officers expect infrastructure costs to increase by 5 percent or more in the next two years.
 - Only 38 percent reported an increase in ResNet funding, while 10 percent reported a decrease.
 - One in five respondents indicated that they are not recovering any of the costs of support and management of their network.

- Small, predominantly private institutions fund ResNet centrally, and medium to large, predominantly public institutions use a fee/recharge system.
- Schools using mixed funding models and mixed resources (a combination of student fees and central university funds) experienced a decline of 12.2 and 16.3 percentage points respectively. (See Figure 1.)

We thank all who participated in our survey. Your participation makes the results

meaningful and makes bringing you this information possible. Figure 1 is an example from the full report, which offers a visual presentation of all the data. We invite you to review the full report by following this link: <http://www.acuta.org/resnet>.

Reach Corinne anytime at choch@acuta.org or at the ACUTA office: 859/278-3338.

Figure 1. Funding Models for Campus Telecommunications and Network Services

Who Pays for ResNet Costs & How Costs Are Recovered

At a majority of universities and colleges, Central IT pays for ResNet and recovers some or all of the costs through resident fees or interdepartmental charges to Housing. This compares to prior years, where it was significantly more common that Central IT paid for ResNet and did not recover the cost.

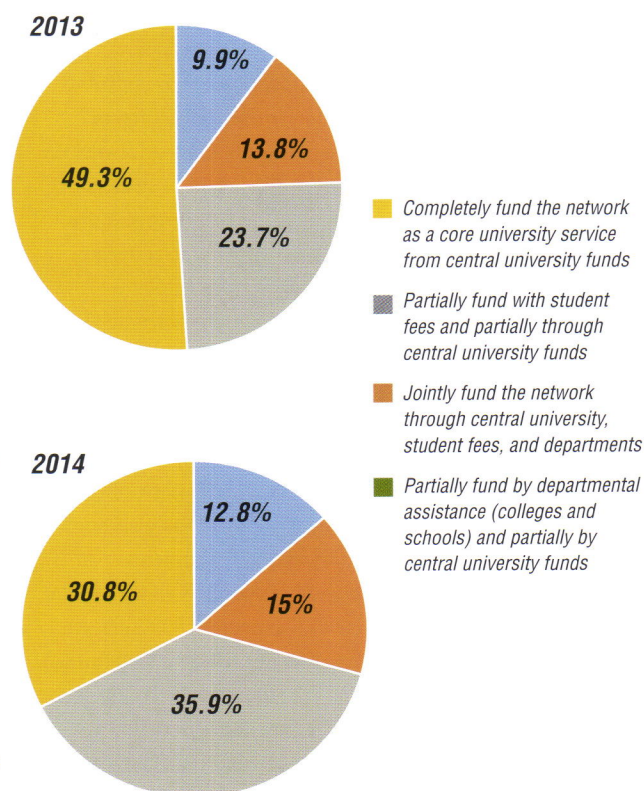
Still, more than one in every five respondents indicated that they are not recovering any of the costs of support and management of their network.

Annual budgets for telecommunications and network services closely resemble the size of institutions.

The majority of institutions (41.8 percent) have a budget of less than \$750,000; more than a third (35.3 percent) budget between \$750,000 and \$2.5 million, and 23 percent have a budget of more than \$2.5 million.

Funding models are closely related to the size and type of university. Small, predominantly private institutions fund centrally, and medium to large, predominantly public institutions use a fee/recharge system.

As compared to 2013, this year fewer schools (16.3 percent less) utilize mixed-resources and instead rely solely on central university funds. There was a 12.2 percentage point drop in funding models that include a combination of student fees and central university funds. Some schools indicate that their services are fully funded by college/school departments.



by Curt Harler
Contributing Editor

Show Me the Money!

CIOs Tell Who and What Drive IT Budgets

The answer to the question about what is driving IT and telecom budgets on college campuses should be simple: technology. But there is more to it than that. Driving IT budgets can be a bit like the movie *Driving Miss Daisy*—the person behind the wheel is not necessarily the person who purchased the car or the person who decides where the car is going. Likewise, there is the question of who approves the technology budget. Part of that is reflected in the position of the IT and telecom department(s) on campus.

Vassar College

"The overall college budget is approved by the board of trustees, and then the

CFO works with the dean of strategic planning and the CIO to translate this into a response to the IT budget proposal," says Emily Harris, director of network and systems, CIS, at Vassar College,

Poughkeepsie, New York. Vassar is home to 300 faculty and 2,450 students.

At Vassar, IT is definitely more a leader than a service department. "The central IT budget at Vassar College is well funded, and the majority of our projects are still driven by CIS to enhance networking and systems infrastructure," Harris says. "In fact, we have specific goals to vastly increase this infrastructure over the next four years." In this case, IT is driving the networking infrastructure.

"This approach is good for positioning IT to serve the needs of the institu-

tion," Harris believes, adding that they need to deliberately maintain a strong connection to the institutional priorities to make sure IT is doing the right things.

For the immediate future, the IT department at Vassar has made a request for an increase to their budget. However, Harris says, at this point the response and exact amount are unknown. For systems that IT believes need to be upgraded, she is optimistic there will be funding available in 2015 to reach IT's goals.

On some campuses, IT's role is mainly "jawboning" about technology needs. At others, the department is able to put some teeth into its budget proposals.

"Our budget proposals are definitely toothy," Harris quips. "We have the ability to drive the budget requests with detailed information about prospective projects."

The CIO at Vassar builds the IT budget proposal with consultation from the four senior IT leaders: director of academic computing services, director of administrative information services, director of networks and systems, and the director of user services.

"A small number of departments have IT budgets, including Computer Science, but most are centralized through IT," Harris says.

"We are given guidelines from the college leadership," Harris continues. "Within those guidelines, CIS comes up with a proposed IT budget. If the year's needs exceed the guidelines, justifications are given for consideration. If the projects are unable to get funded, they are postponed for another year."

Florida State University

At Florida State University (FSU), the

central IT recurring budget is the responsibility of information technology services (ITS) and falls under the purview of the CIO.

"Nonrecurring funding has been allocated for the highest-priority proposed projects," says Sean Bankston, FSU's associate director of fiscal and administrative operations. Recent examples include the complete overhaul of the legacy student systems suite, replacement of the core data network infrastructure, upgrades to technology-enhanced classrooms, and the deployment of a wireless canopy.

"Each of these represents the university's commitment to promoting a robust technology environment that enhances the performance of students, faculty, and staff," Bankston says. He notes that individual departments typically have IT expenses within their budgets. Some of these expenses include auxiliary services provided by ITS for a fee.

"At the departmental level, ITS leverages a successful program called the Information Technology Administrators Partnership (ITAP), which promotes industry best practices and the adoption of technology standards throughout the university," Bankston says. Site leaders within participating departments report to ITS and are funded by the departments.

ITS at FSU continues to research, develop, and implement solutions that reflect industry best practices, leveraging both proven and emerging technologies. "Within our catalog, services including desktop support, VoIP, and virtual machines are recharged to departmental budgets," Bankston says. However, he notes, less than half of the overall budget

"We will continue to carry the message that IT is a tool to be leveraged rather than a cost to be contained."

—David Rotman
Cedarville University

is auxiliary based. Whether this is a positive or a negative in the long term depends on the funding model.

"At FSU, there is a fairly strong argument for migrating to a hybrid per capita model that requires departments to invest in central IT based on student/employee counts," he says. Goals of this model include higher reliability, economies of scale, minimal deferred maintenance, and reduced administrative overhead.

"Under such a model, the majority of the budget would be based on central funding and departmental investments, with a diminished reliance on recharged services," Bankston explains.

At the beginning of each fiscal year, IT at Florida State submits a strategic planning report that indicates how the budget and any supplemental project funding will be utilized to serve their campus's 35,000 students plus faculty and staff. At the end of the fiscal year, a qualitative and quantitative performance report records actual outputs and outcomes. Budgets are approved by the provost/executive vice president for academic affairs and the vice president for finance and administration.

"We anticipate that the highest-priority, most critical projects will be funded in 2015," Bankston says. "[FSU's] budget has remained flat for the last few fiscal years," says Sean Bankston. "We have, however, been successful at obtaining additional nonrecurring project funding that aligns with the technology needs and expectations of stakeholders across the university community. At this point, we do not anticipate an increase in the 2014-2015 budget base."

Marymount University

Marymount University in Arlington, Virginia serves a student body of about 3,600. "IT, at its core, has always been a services department for the Marymount community," says Dave Lutes, director of information systems. "We serve the technology needs of our university."

Thus, there is always the challenge of figuring out exactly how much a department should be automated or how much technology should be deployed to streamline a specific department. Beyond that, Lutes says, a mechanism needs to be in place to determine when that department should be reevaluated to see if some staff should be reassigned or obsolete positions eliminated to help offset the cost of the technology for those positions.

At Marymount, the Technology Budget Committee gets first stab at any budget. Then it goes to the University Budget Committee which is made up of all of Marymount's vice presidents. "This group has to review all budget requests, not just IT's," Lutes explains. If a budget passes them, then it becomes part of the entire university budget, which, in turn, needs to be blessed by the school's board of directors.

Marymount's University Technology Committee (UTC) is composed of different leaders within all aspects of the university from faculty, students, and staff. Under this umbrella group are numerous committees and subcommittees, including the Steering Committee, Technology Budget Committee, Classroom and Teaching Technology, Core Data, Infrastructure and Security, Web and Online Technology, and a variety of ad hoc subcommittees that exist as needed for long-term or special projects.

For budgeting at Marymount, IT sends up an annual budget proposal and awaits approval or changes. "All IT requests have to come through UTC for approval," Lutes says. "Funds, if approved, are assigned to the IT department for purchasing, deployment, and maintenance."

It is not like the group is foreign to what is going on. "Almost everyone within IT sits on or is chair of one or more of the committees," Lutes explains. "The executive director for IT chairs the Steering Committee, which gives oversight to all the other committees."

Grants can have their own challenges. Lutes finds grant requests often come in under the radar without oversight from UTC. "The largest problem with grants is what happens to the technology once the funds run out," Lutes says.

If the university adopts the technology on a broad scale or if a large enough group begins to use these technologies, the question arises over who owns them. "How do you work that into your budget for yearly replacement or maintenance?" Lutes continues.

Marymount anticipates some exceptional times in the near future. "We have very large projects coming up, with new buildings coming online and VoIP," Lutes says. At the moment, the actual budget number is still cloudy since the final figure will be a combination of yearly capital with yearly operational funds to be used for some leases.

Lutes is fortunate in getting support for funds for those networks or systems that IT believes need to be upgraded. "If we request it and there is funding, they will usually approve it," he finds.

Seattle Pacific University

"I am assigned an annual operating budget by the administration—enhancements, changes, large capital expenditures, and staffing changes are proposed by me on an annual basis for approval," says Dave Tindall, assistant vice president for technology services/CIO at Seattle Pacific University. SPU is a private university with 4,300 students and 650 faculty and staff.

However, Tindall adds, specifying who drives the IT budget on campus is more complicated than a simple answer. "IT (my department) has a fixed budget amount, and I have quite a bit of control over large portions of that budget to make operational decisions as we see fit." Excluded from that discretion are full-time/permanent staff positions and certain capital expenditures over a dollar value threshold.

"Advocating for additional resources is a different process," Tindall continues. "A portion of the budget associated with hardware and software maintenance agreements have some built-in escalators that are often based on contract terms or historical increases (and occasionally decreases). While these escalators are not guarantees, they have consistently been approved over the past decade as part of the budget process."

At SPU, budget enhancements that increase ongoing/permanent budget expenses have an approval process that is initiated within the IT organization. These could be approved (or denied) by the division vice president, or they could be approved (or denied) at the senior leadership level, which consists of the president and vice presidents.

"Some of those requests are on behalf of other campus departments, and some originate within IT," Tindall says. Certain projects and some hardware purchases originate in academic schools and administrative departments, but they also cross Tindall's desk for pricing review, contract review, technology review, and IT staffing impacts.

At some colleges, the individual departments—such as physics or music—have IT budgets of their own. Some fear that such a setup will set IT on a path to becoming simply a service department rather than a campus leader, with its role limited to implementing budget allocations from other areas of campus instead of shining a light on future direction. But Tindall says, "I think it needs to always be a balance. Central IT is nearly always consulted and participates in technology and software decisions—even if they originate in other units," he says.

SPU is decentralized both for the budget and purchasing authority for everything from academic student computer labs to academic departments around campus. "We also decentralize a portion of staff support of ERP projects (reporting and lightweight implementation and business analyst

tasks) to academic and administrative departments, but with strong centralized control," Tindall says. Nearly everything else, including staff, hardware, software, and networking, is centralized in the IT organization.

Having a clear vision for prospective projects clears the path for funding. "It varies by project or initiative," Tindall finds. Some projects have clearer ROI and business justification, often bolstered by academic and administrative units. In these cases, IT simply guides through the process. Some projects have more ambiguous ROI, and the "art of persuasion" is more important, he says. "Unfortunately, justifying with hard data (and savings) is viewed somewhat skeptically by many campus leaders—at my campus and other campuses," Tindall says.

Budgets at SPU look slightly more optimistic for the coming year than they have in the recent past. Nobody is throwing money at IT, but the constant roar of chainsaw cuts has diminished.

"I feel pretty good about the 2014–2015 fiscal year," says Tindall. "A few capital projects have received preliminary approval (they are in the guideline budget). All of our normal escalators were approved," he adds. Tindall anticipates a steady flow of projects from other units, but that does not represent a substantial portion of IT's work.

Cedarville University

"Budget priorities are set through a variety of discussions," says David Rotman, PhD, associate vice president for technology and CIO at Cedarville University in Ohio, which has an enrollment of about 3,500. Among the stakeholders are an internal planning committee, external advisory committee, and IT leadership. "These priorities are then implemented within the overall IT budget," he says.

Rotman has thought about where IT is going, who is driving what, and who is signing off on budgets. Cedarville is shifting the reporting to the CFO instead of reporting to the chief academic officer. "We will continue to carry the message

that IT is a tool to be leveraged rather than a cost to be contained," Rotman says.

Very few departments at Cedarville have an IT budget. "There are a couple that acquire software licenses for their students, but that is related to course fees," Rotman says. The IT department has considerable leeway within parameters. "IT is free to reallocate priorities within the budget," he says, adding that there is certainly an expectation that the budget will be used efficiently for direct support of the institution's mission.

However, any action that affects personnel requires administrative approval. At Cedarville, the president's cabinet has final overall budget say. Rotman says he expects to get the funding for IT projects that involve necessary upgrades in 2015.

"We expect to receive a slight increase (2 percent) for salaries, but the remainder of the budget will be frozen," Rotman says. "Our IT budget has been relatively constant for several years. I have not had to argue extensively to keep the budget, but I also have not had the opportunity to argue for increases."

One area of concern for him is the trends for major shifts happening within budgets. "For example," he says, "we are seeing software expenses grow 4 to 6 percent per year." Keeping in mind a budget that will increase by only 2 percent this year, he plans to absorb that shortfall by reducing hardware expenditures.

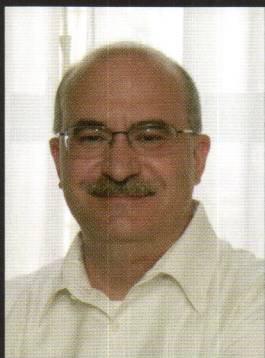
Conclusion

From researching to analyzing to strategizing, the budget process is a tedious necessity. The most successful budgets seem to require input from all departments, realistic projections, and a certain degree of flexibility in the face of unpredictable developments in technology. If you're doing the driving, hold on to the wheel—it could be a bumpy ride!

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Transitioning to a Service-Based Model for Support

Carnegie Mellon University introduces a new portfolio of services



Charles Bartel



Ken Hallinen

Responding to a message on the ACUTA listserv about how campuses are managing budgets, Carnegie Mellon University's Charles (Chuck) Bartel, Director, Global IT Services, and Ken Hallinen, Director for Resource Planning & Management, agreed to answer a few questions about their campus's transition to a service-based model for support.

ACUTA: What does it mean to transition to a service-based model for support? What have you done in the past that you will no longer be doing?

Carnegie Mellon: For the last six or seven years we have been receiving increases to the budget based on the recommendations of the advisory board. But that scenario has ended now, and last year was our last to receive extra money. Now we really have to live within our means, so it becomes more important to understand how our money is used. We all know that end users don't care how much disc storage or how many access points are available—as long as they have what they need. They want dial tone and mail whenever they need them, so we must relate what we do to what they want.

Our provost reminds us that we are all stewards of the university's resources, and there are trade-offs. For example, acquiring additional technologies may come at the price of not funding a research effort, so it is necessary to balance the provision of services. We have to justify how money is spent. We need to understand our costs and services better. What we do must always tie to the mission of the institution.

Moving from our current model of support to a service-based model means we are transitioning to a new portfolio of services. We are working on a number of parallel efforts in the ITSM (IT Service

Management) area. One example is that we have replaced our aging incident management platform with a cloud-based solution that supports the ITSM model. We are using new software to try to get to the next level, having decided that the service-based model is the future for managing services and the best way to price out services.

Several of our management team have become ITIL Foundations certified through an in-house training and certification offering and we have used opportunities such as the recent ITIL* Workshop at the ACUTA Conference in Dallas to extend that training to more of our staff. This kind of training provides a common language across the organization.

ACUTA: On a practical, day-to-day level, how will this affect staffing and/or assignments?

Carnegie-Mellon: The organization is evolving, and the changes are more evolutionary than revolutionary. Years ago we had a 24/7 data center, but we have moved to a "lights out" model and have already moved people around.

There are still plenty of opportunities, but not a lot of new positions. Everyone recognizes that some new skill sets are needed, and some staff will change with the evolution. This is not new—it's part of adapting with the change in technology, which we experience to some degree

*NOTE: The Information Technology Infrastructure Library (ITIL) is a set of practices for IT service management (ITSM) that focuses on aligning IT services with the needs of business. ...ITIL describes processes, procedures, tasks and checklists that are not organization-specific, used by an organization for establishing integration with the organization's strategy, delivering value and maintaining a minimum level of competency. It allows the organization to establish a baseline from which it can plan, implement and measure. It is used to demonstrate compliance and to measure improvement. (This information was taken from Wikipedia.)

all the time. We expect a reasonable churn of staff. We have some open slots, with 225 people in the division, and of course we have some flexibility as we move people from one area to another. And, as you'd expect, some areas have higher churn than others.

Virtualization has introduced flexibility as well. It does require staff with different skill sets. We've seen reductions in our hardware expenditures, some of which are unfortunately offset by the costs of the virtualization software, but the biggest win has been in space requirements in the data center.

It can be a challenge to retrain staff so that they understand the new mind set. The focus has traditionally been on providing a given piece of technology and that's the way we're organized.

We have a networking group, a storage group, a database administration group, and so on. Services cut across these silos and force us all to think our how our "component" fits into the overall service. E-mail is not just e-mail; there's more to it than that. It requires servers, disk storage, network infrastructure (internal and external connectivity), spam filters and virus checkers, system administrators. These "items" are often not going to be in a given cost center, making it a challenge to pull together a total cost for e-mail.

We are just getting started. The focus has been on getting our new incident management system up and running. This required us to develop the list of services. We have not begun work on a CMDB. We are not yet at the point where we are making trade-offs based on

the impact to a given service or services. The effort began in our project management office.

ACUTA: What kind of services are included in this transition?

Carnegie-Mellon: This transition will include all the services we provide, but not all at once. We plan to run any new services or any major changes to existing services through our service portfolio efforts as a start.

ACUTA: Can we assume that this transition includes an overall evaluation as well as

specific evaluations such as customer needs and the impact of technology on services offered? How have you decided what to keep, what to change, and what to cut?

Carnegie-Mellon: We haven't actually gone there yet—haven't built out our cost model. Knowing that consumer input is critical to success, we plan various outreach methods to determine the services needed. For example, we recently revamped our student engagement approach: Two or three years ago, we began a student information exchange. We cre-

ated a festival atmosphere and brought in a sure attention getter—free food. To engage the students and get more feedback, several of our service teams were talking and listening while the students provided input via graffiti tables using paper and markers. As a result of this event we discovered some problems with wireless coverage in the dorms. We also added a new service as a direct result of listening to our customers—I2Net+ cloud storage. Students wanted better storage, so we now offer the Box service.

ACUTA: Where did the decision to change originate—within IT or from upper levels? Who championed the strategy, and how did he/she make the case?

Carnegie-Mellon: I'd have to say mostly within IT. We were able to capitalize on some fortunate coincidences. We were beginning to look at our peers for new service management procedures, we replaced some software, and we brought in a new CIO. We wanted to look at what the appetite was for moving to a service model, and after a number of different efforts and melding together some phases, we brought in a consultant who helped with portfolio development and offered advice on the direction we should follow.

ACUTA: What brought you to this decision? What do you hope to accomplish with this strategy?

Carnegie-Mellon: It is good practice to be able to hang price tags on things so you know where the money is going and you can build an argument for or against certain strategies. For example, Google Mail. What do we gain? What do we lose? If you have the data to back up your argument, you can fend off attacks when someone asks why.

Just saying we want to provide the best quality to faculty, staff, and students is vague, but we are trying to put the model in place in order to make the right decisions. Part of this means understanding the cost required to provide a service and who is using it as well as its value to the institution. It's a zero-sum game. There is



Carnegie Mellon University (CMU) is a global research university with more than 12,000 students, 95,000 alumni, and 5,000 faculty and staff. CMU has been a birthplace of innovation since its founding in 1900.

Our award-winning faculty members are renowned for working closely with students to solve major scientific, technological and societal challenges. We put a strong emphasis on creating things—from art to robots. Our students are recruited by some of the world's most innovative companies. We have campuses in Pittsburgh, Qatar and Silicon Valley, and degree-granting programs around the world, including Africa, Asia, Australia, Europe and Latin America.

CMU has been an ACUTA member since 1989.

are no new resources, and we must fund within our environment and then justify the expense as we explain what goes, what stays, and why.

ACUTA: Does IT at CMU compete for funding with other academic program needs? Assuming so, how do you evaluate for fairness, effectiveness, usefulness, importance, etc?

Carnegie-Mellon: Much of our funding does come in the form of a central allocation. The individual colleges also receive funding from the same pool of funds. Funding levels are typically constant from one year to the next – the exception there normally is an increase in salaries. We're all responsible for pursuing the institution's mission.

We do have opportunities to request additional funding for specific purposes. These requests are requiring more data to back them up than they might have

several years ago. When the CIO requests data, we would like to rely on real data rather than anecdotal information. We've undertaken several efforts to collect usable metrics. Within the help center, we have done customer satisfaction surveys. To address network performance difficulties, we go into dorms and engage students with pizza, invite them to bring their wireless device, and we'll help configure them. When we receive a project request, we are able to respond with hard data documenting what resources will be required, how long will it take, and more, rather than complaining that we don't have the resources

Everyone has to understand there are trade-offs. Without information, it's hard to show a project's or technology's value or even to determine strategic value. This can come across as just IT whining or pulling for more resources.

ACUTA: How will you recognize or evaluate success?

Carnegie-Mellon: It's an ongoing strategy. Some methodologies could be called successful, but there are always new things in IT. We can't be "done." In this field, there's never a snapshot project, not a "one and done." We are constantly changing how we operate, and this must continue to happen. We are always looking for a new "way of life," new organizational DNA.

For example, six or seven years ago, the area of information security was relatively new, and so it was more of an afterthought in IT. We chartered the information security office whose purpose was to champion the idea of across-the-board security. Now information security is standard operating procedure, part of planning, built in at multiple levels. More recently, we took a similar approach with



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disaster recovery and business continuity planning with similar results. These groups still look at new things that have an impact on the way we think and plan, but it's generally assumed that people think of disaster recovery, security, and so on as they plan for any changes to existing services or to any new service offerings. We have to keep evolving. The service-based model will be the norm also eventually.

On the historical side, having a standard way of doing things and comparing will be easier than searching for data on

partial service. Having information all in one place is certainly helpful.

ACUTA: What lessons learned have you documented so far?

Carnegie-Mellon: You can accomplish a project of this magnitude if you have the necessary vision from the highest level, plenty of energy, adequate resources, and most of all, buy-in from constituents at all levels. While a consultant is not absolutely necessary, that may be a good investment. As an example, a few years back we tried to develop our own service portfolio and service catalog in house. We

had some staff trained, but not everyone stood behind it. A few years later, we made another run at it, this time with some help from a consultant, and, in the end, we found our consultant was worth his weight in gold.

Charles (Chuck) Bartel is Director, Global IT Services, and Ken Hallinen is Director for Resource Planning & Management at Carnegie Mellon University. ACUTA thanks both of them for taking the time to share their story. If you would like more details, contact them at crb@cmu.edu or kh0r@andrew.cmu.edu.

by Tamara Closs

Snapshot

Campus Efficiencies

From all indications, for the first time in many years, state and local budgets, including those for taxpayer-funded colleges and universities, have stabilized and in some cases actually increased. However, after years of budget reductions and cost containment initiatives, significant backlog of unfunded projects await prioritization. For many colleges and universities, identifying and funding strategic investments with a positive return on investment is a great place to start. Not only can these projects pay for themselves in terms of driving greater productivity and efficiency, they can also help improve the campus experience for students, enhance campus security, and drive sustainability initiatives.

Whether you call it machine-to-machine or the Internet of Things, there are more and more opportunities to create operational efficiencies across the campus, whether it be collecting trash, reducing energy usage, managing fleets, or monitoring sensitive research environments.

You've probably heard the term "Smart Cities" used to describe initia-

tives and solutions that leverage a city's information and communications technologies infrastructure by adding sensors and data analytics to support sustainability efforts, drive economic development, and meet citizen expectations for innovative services. Many of these same technologies and applications are making their way to campuses across the U.S. Following are a few examples.

- **Sustainability** offers the ability to meet operational and environmental objectives. One rather mundane but important example is trash collection. By embedding sensors in trash cans, facilities staff can remotely monitor when one requires emptying, providing sustainability, recycling, and improved cleanliness while also controlling the use of resources by reducing the time and money spent collecting trash.
- **Energy Management** delivers real-time monitoring and alerts as well as trending reports to help improve campuswide energy usage. By reducing campus energy consumption through the management of lighting and building temperature, connected machine

technologies help to control costs and reduce a campus' carbon footprint.

- **Fleet Management** provides efficient vehicle routing, maintenance, and safety monitoring of campus fleets. The insights gained can translate into more efficient asset usage, fuel consumption, and maintenance programs, enabling more informed decisions and utilization.

These "Smart Campus" solutions and many others are an opportunity for campuses across North America. By focusing on the deployment of connected machine technologies to create the campus of the future, colleges and universities can drive operational efficiencies that will benefit students, educators and administrations alike.

How is your campus deploying connected machine technologies?

Tamara Closs is a former ACUTA president who now manages K-12 and higher education markets for Verizon Enterprise Solutions. Reach her at tamara.closs@verizon.com.

How Do You Justify Technology Purchases?

New Metrics Emerge to Help Managers Make a Case for Large System Purchases

by Paul Korzeniowski

Finding funding for new projects has always been a challenge for university IT/telecom decision makers. There have consistently been more projects in the pipeline than funding available to complete them. Through the years, technology professionals have relied on a few key metrics when presenting their needs to the university brass, but the effectiveness of the metrics has become questionable as technology has evolved. As a result, new justification techniques are taking shape and leading to the question: Are the criteria used for major purchases about to change dramatically?

Traditionally, universities relied on the return-on-investment (ROI) model to prioritize their buying decisions. This technique was developed during the manufacturing age and was designed to evaluate the impact of acquiring large, new, costly pieces of equipment. It has often been applied to computer infrastructure, for instance, when universities invested significant sums (six figures, seven figures, or more) in complex internal systems such as PBXs.

The goal is to convince top-level executives that dollars invested in a new system will be money well spent. Typically, managers justified such purchases by the solution's ability to increase productivity (move information faster) or reduce internal costs (i.e., automate manual tasks). The expenses were easy to calculate because the device's price was known up front. Paybacks (as well as sys-

tem depreciations) were spread out over a set period ranging from a few—say, three—years to as many as ten years. For instance, if a firm spent \$1 million on a PBX that would be used for ten years, the annual cost (and depreciation) could be \$100,000.

What Am I Getting Back?

The returns from such investments were sometimes a bit more art than science. "A product's ROI has often been poorly defined," admitted Sheard Goodwin, IT expert at the University of Florida. Ambiguity often arises as schools try to turn high-level ideas into dollar values. The impact of moving information faster and automating manual functions was sometimes difficult to directly correlate to bottom-line savings. For instance, rather than eliminating staffing positions, automation usually meant shifting telecom personnel's attention from one project to another. Instead of configuring moves, adds, and changes, techies spent their day making new voice applications available to employees.

Also, projects tend to evolve in an eclectic manner. As users dabble with new technology, they want to customize it, which leads to additional development time and costs. As a result, projects frequently take longer and cost more than original estimates.

Consequently, use of the ROI model has been a bit inconsistent. In fact, when asked if their firms go back and measure the ROI of their IT projects six months

after the work is completed, 68 percent of IT managers said "rarely" or "never," according to an International Data Corp. survey. Additionally, nearly 75 percent said their organizations do not have formal payback processes in place for measuring the return of their IT projects.

Better Ways to Spend Time and Money

A couple of factors contribute to the lack of formal measurements. Focus is one issue. IT/telecom managers are skilled in technology, but many lack the business experience needed to complete sophisticated ROI calculations. In addition, putting such checks in place requires time and effort, and in many instances, universities want employees to spend their time and money in other ways.

Since many schools do not go through a formal ROI process, funding is secured in other ways. In some cases, colleges list equipment purchases as a line item in the annual budget. Here, the IT/telecom manager makes purchases at his or her discretion, although typically after soliciting input from other departments.

Other times, the school does not have any other choice. Equipment eventually will come to the end of its life cycle, and a new system will be needed, according to Dr. Walt Magnussen, director for telecommunications at Texas A&M University. In 2006, when the vendor began phasing out A&M's legacy PBX system, the university started to move to a new voice over IP solution.

Just Do It

A number of other projects fit into similar buckets. Vendors constantly upgrade their networking gear, so schools feel obliged to make that change. The college must add more bandwidth as employees, faculty, and students work with more intelligent end devices that support higher-volume bandwidth applications—such as video conferencing instead of simple text messaging. Typically, the network is the first line of security, so colleges willingly invest in various security solutions.

Finally, schools respond to user demand. A Business Intelligence survey found that close to 50 percent of organizations invest in social media solutions without conducting a formal ROI analysis. In effect, they think they have to do it because their users desire it.

“Wireless connections are important on our campus,” stated Florida’s Goodwin. Founded in 1853, the university serves more than 60,000 students and is home to 16 colleges and more than 150 research centers and institutes. In the past two years, the university added 500 wireless access points to its network in areas where wireless

connections previously were not available. The university now has 2,100 access points, offering service on virtually the entire campus.

Moving Away from ROI

Even in the days when equipment purchases were large and easy to identify and control, the ROI approach produced mixed results. Recently, the nature of IT solutions has been changing in ways that have the potential to further erode interest in that traditional cost-justification

model. Cloud computing and BYOD (bring your own device) do not involve large equipment purchases, nor are they easy to monitor and control. As other justification options emerge, ROI may become even less popular in the coming years.

Cloud computing helps budget writers deal with one ongoing funding headache: finding money for personnel. “Getting approval for a \$100,000 server sometimes is easier than getting an employee a \$5,000 raise,” joked Florida’s Goodwin. Schools will willingly pay to expand wireless coverage, but they are not as ready to add ongoing funding for personnel needed to maintain the system. With cloud, the vendor takes on the maintenance functions, so managers do not have to fret about asking for more personnel funding.

Also with cloud, the university no longer purchases the device. Instead of a large, up-front acquisition, schools pay set monthly fees. Depreciation schedules no longer apply because the college does not own the infrastructure. In a growing number of cases, IT/telecom departments were already moving in this direction. “Leasing has become a common way for us to acquire our telecom systems,” noted Texas A&M’s Magnussen. So, today’s managers have some familiarity with cloud budgeting concepts.

Increased Agility Creates Budgeting Challenges

On the other hand, forecasting becomes more complex with cloud. Flexibility is a cloud attribute, so usage (which directly correlates to cost) often ebbs and flows. A school can dial up a cloud service, use it for a few months, and then turn it off. A higher education institution may need extra bandwidth at the start and end of a semester but not as much during the rest of the school year. Rather than set fees, the flexibility results in volatile monthly charges, which executives typically have not experienced.

The BYOD movement is also changing IT equipment-purchasing dynamics. Traditionally, IT departments controlled the bulk of device spending. They bought all of the hardware, software, and network resources that users worked with. BYOD alters that equation. Employees, faculty, and students walk onto campus with computers stuffed in their pockets. They open the devices and then try to access academic information via the university network.

Once the user enters the network, the college becomes responsible for his or her interactions, and the traditional dividing lines between school and personal data become blurred. Network managers must make sure that BYOD devices do not pollute the school network with malware. Also, any information that users access via the university network needs to be protected because laws, such as FERPA (Family Educational Rights and Privacy Act) and HIPAA (Health Insurance Portability and Accountability Act of 1996), protect confidential information. But figuring out what needs to be done and how to pay for needed security checks for mobile systems are challenges that many administrators now grapple with.

A New Way of Doing Business

Given the changes brought about by the introduction of cloud and mobile technologies, new metrics are emerging that may fit better with IT infrastructure than the manufacturing age’s ROI technique. *Return on opportunity* is one fledgling model. Rather than focus on how much universities save by spending on a big ticket item, this approach emphasizes how quickly new services can be delivered. The notion here is that the IT infrastructure either hinders or enables a college as it tries to respond to new opportunities. Investments that speed up development will lead to better yields—for instance, increasing the percentage of accepted students actually coming to the school in the fall.

Given the changes brought about by the emergence of cloud and mobile, new metrics are emerging that may fit better with IT infrastructure than the manufacturing age’s ROI technique.

Return on perceptions is another emerging technique. It attaches value to one component of the marketing process: perception. The idea is that students interact with various schools, develop positive and negative feelings about them, and then share their experiences with other people, increasingly online. This approach concentrates on IT investments that raise a college's social networking profile. To use this method, a school first needs to deploy monitoring tools for social media conversations. Then it needs to develop reporting tools that correlate positive and negative comments to its social networking initiatives.

These ideas are just two of dozens of new ways to evaluate IT investments.

Higher-ed institutions could also look at items such as how well the purchase fits with the campus master plan, risk mitigation, and new educational opportunities (online, remote campus) that IT projects could support. These approaches become more university specific than the horizontal ROI model. A college could prioritize the different options, apply the criteria to its various projects, and create its own funding hierarchy.

Developing a strong business case for telecom purchases has never been easy, and the process has recently become more complex. The types of purchases being made are shifting away from large, one-time expense items to small, short-term expenditures. Techniques that rely

on models taken from the manufacturing industry have not been universally adopted and lately are showing signs of age. Consequently, new techniques to help schools prioritize their financing options are emerging. The ROI model gained limited acceptance, and the emergence of these nascent models will further change the way IT/telecom professionals do their jobs.

Paul Korzeniowski is a freelance writer who specializes in communications issues and is based in Sudbury, Mass. He has been writing about these issues for more than two decades and can be reached at paulkorzen@aol.com.

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STATE OF THE RESIDENTIAL NETWORK — 2014 —

In November and December of 2013, three leading professional organizations representing college and university business, IT and housing officers (ACUTA, NACUBO and ACUHO-I) conducted the third annual long-term study of Residential Networking (ResNet) practices. ResNets provide connectivity to students living in higher education residence halls. A combined total of 509 surveys were completed by IT, Business and Housing officers, representing 412 unique colleges and universities. The following infographic summarizes the "State of the ResNet" for 2014.

A SNAPSHOT OF 2014

DEMAND FOR BANDWIDTH/WI-FI: NO END IN SIGHT

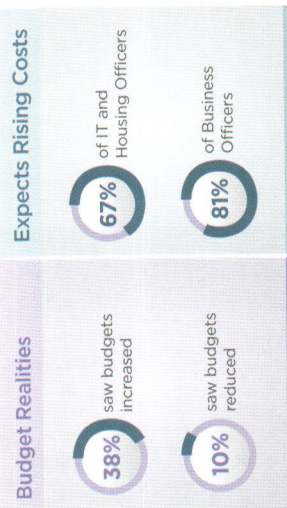
Schools striving and providing more bandwidth and better wireless.

23% Increase in schools dedicating 1GB of bandwidth to ResNet

16% More schools providing wireless to 81-100% of the campus

UPHILL BATTLE TO FUND WIRELESS NETWORK GROWTH

Institutions struggling with budgets that don't match increasing wireless costs.



WIRELESS COVERAGE

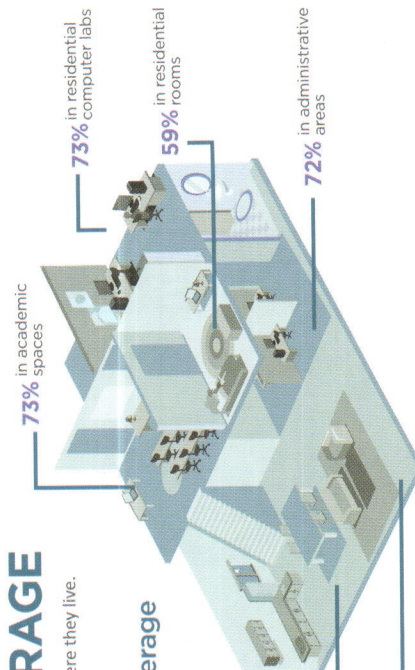
Connectivity is best where students study, not where they live.

Percentage of Campuses offering Robust Wireless Coverage (Four bars or more)

20% in outside areas adjacent to residential spaces

70% in dining facilities

70% in community spaces



OUTSOURCING ON THE RISE

**STILL 9-5 IN A
24/7 WORLD**

Colleges Explore Ways to Cope with Bandwidth Appetite while Facing Conflicting Priorities

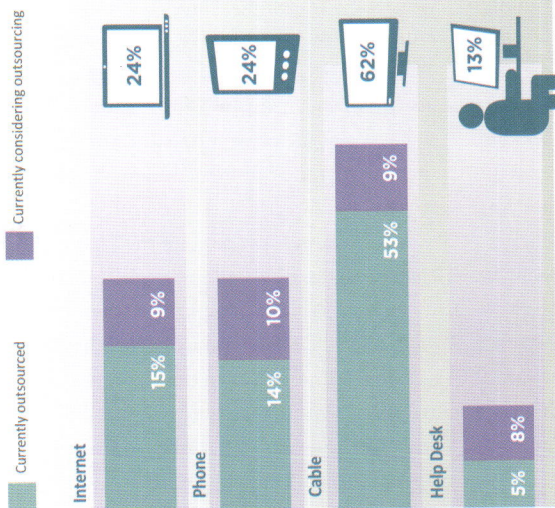
The Third Annual State of ResNet Report reveals that with the explosion of wireless connected devices and surging demands for "anytime, anywhere" connectivity, campuses nationwide are exploring ways to cope—all while trying to resolve conflicting priorities. The need for more planning, better communication and tighter security is being offset by

processes and resources that have not kept pace, according to the report.

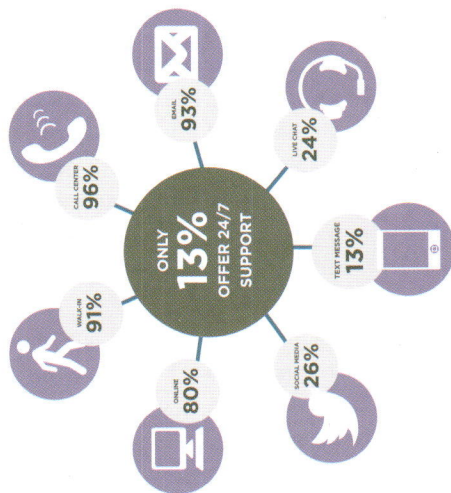
The 2014 study is published by ACUTA, The National Association of College and University Business Officers (NACUBO), and the Association of College and University Housing Officers- International (ACUHO-I). This Report is the third installment of a five-year study

to measure the pulse in ResNet practices and policies in higher education. A total of 509 surveys were completed, representing 412 unique colleges and universities. The number of stakeholders analyzed this year was almost double the number analyzed in last year's report, and extended beyond IT and Business officers to include Housing officers.

Outsourcing portions of the ResNet



Types of Support



DOES MORE PLANNING EQUAL BETTER VALUE?

Although more schools have strategic plans, they are still challenged by poor diagnostic data and infrequent updates, which are important factors for high-quality plans.

Frequency of Strategic Plan Update



ABOUT THIS YEAR'S SURVEY

Gaining Ground

The scope has widened, representing twice as many stakeholders and thrice the number of business officers. More than 412 institutions are represented this year versus 251 last year.

Read the full report at: www.acuta.org

A More Rounded View

This year's survey expanded its original respondent base of IT officers and business officers to include 234 IT officers, 152 business officers and 123 housing officers.

an unlimited number of devices. Yet bandwidth management is declining.

- 44% of housing officers are concerned about the ability to meet future ResNet demand, yet only 9% of IT officers voice the same concern. And 1 in 5 respondents do not meet with their IT, housing, or business counterparts at all.
- The number of those who outsourced or considered outsourcing some or all ResNet services has increased from 22 percent to 32 percent.
- Fewer than 59 percent of respondents provide coverage in residential halls, and

fewer than 20 percent provide mobility outside of residential spaces.

- Security is top-ranked among business officers, with 55 percent wanting more diagnostic information on security breaches.
- A vast majority expect costs to fund wireless infrastructure to continue to rise, but only 38 percent saw a budget increase, and 10 percent saw a reduction in 2013.

The full report, available free at www.acuta.org/resnet, provides further trends and insights into higher ed's ResNet environment.

CIO and CFO Partnerships: Understanding the Strategic Links

Working together makes identifying the ROI a more manageable challenge

by Keith Fowlkes

Once upon a time in a land far away, one of my first chief financial colleagues told me in somewhat colorful imagery that technology is like a leak you can never find and fix. Such words from a sage old CFO to a then-young CIO were not very encouraging. At the time, I took this as a punch to my professional gut. Now, with a few more years under my belt and a better understanding of the bigger picture, I understand what he meant. He was saying that technology is a costly resource that has no real return on investment. My job as a CIO was then (and is now) to translate technology expenditures into positive business and educational outcomes to show a return on investments. I

hope I do a bit better job today than I did back then.

CIOs often have trouble communicating and translating the linkages between technology development and growth and the overreaching institutional mission and goals. Possibly most problematic, CIOs have been resistant to working with CFOs to develop a strong formula for return on technology investments.

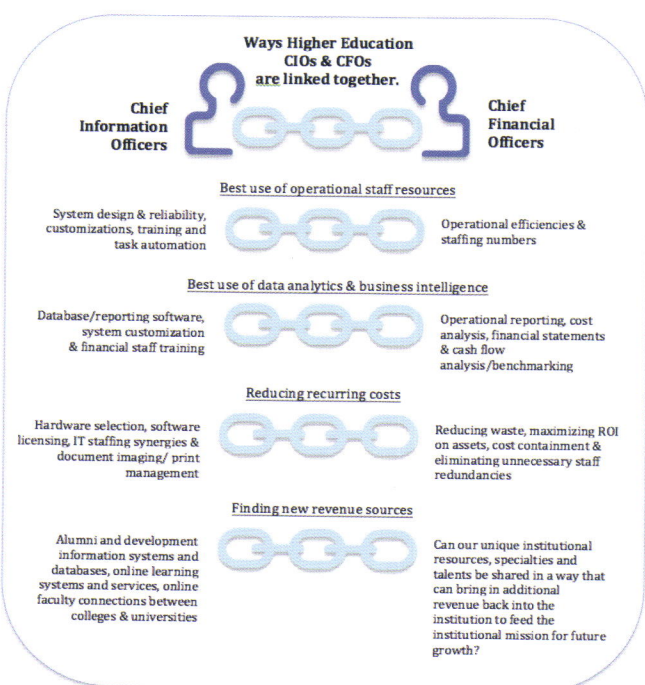
I am fortunate to have a very solid relationship with our CFO here at Centre College. It's certainly not the first time I have had good colleagues in that seat, but this positive relationship now definitely helps me reflect on the good and bad times.

The same institutional success. Chief information officers are focused on the fundamental pillars of administrative software and support systems that keep the technology ships moving forward. Secure transactional systems, networks and software, telephony, institutional data, data analytics, and all the services that are key to keeping things working are foremost on the CIO's mind. Most CIOs struggle to find time to think strategically about the future of technology on their campuses and how new technology and service needs will factor into budgets, current infrastructure, support resources, and efficiency.

On the other hand, chief financial officers are generally focused on the fundamental cash flow systems that the institution relies on to keep the financial ship moving forward. Payroll, investments, payables, receivables, purchasing contracts, and facilities infrastructure are all central things on the CFOs watch. Most are also closely tied to the future growth of the institution and balancing the needs of the present operation with the vision of the president and board of trustees.

I have found success with my financial colleagues now and in the past when we all honestly and completely share our goals and challenges and work together to find commonalities in our operational areas. Now, more than ever before, CFOs and CIOs share a symbiotic relationship where one cannot do his or her work without the other. In essence, if there is no cooperation, one could starve the other and, in turn, starve himself. CIOs

Figure 1. Linkages in operational outcomes between the CFO and CIO



Mutual respect between the CFO and CIO as experienced professionals is one of the keys to a mutually beneficial relationship. Both must understand overarching institutional goals and be committed to seeing the strategic advantages of a sound technology infrastructure and the effective use of institutional data. Best of all, we both must be actively engaged in listening to the needs of our institution and working together to find new ways to use technology to help people work most effectively. The key to a good partnership is mutual respect and an understanding that both parties want the same success for the institution but have different responsibilities in achieving their common goals.

Different Perspectives

Remember that the CIO and CFO have different perspectives on

and CFOs today must rely on each other to successfully meet organizational goals.

Figure 1 helps illustrate a few of the linkages in operational outcomes between the CFO and CIO in an organization. These links show how both parties are reliant on each other to meet strategic goals and outcomes for the overall organization. Think of this as a sort of "language translator"!

Translation of the Linkages Is Key

If this seems like a Mars vs. Venus relationship, it's not. Both the CFO and the CIO are trying to do the same things for the organization: improve faculty/staff efficiency, minimize faculty/staff downtime, gather data analytics to make better business decisions, and strive to be more nimble to meet the changing needs of the organization.

In higher education, we are also focused on the ongoing service to our primary stakeholders—students—and our secondary stakeholders—trustees, alumni, parents, and donors. This broad variety of people with time, energy, money—and sometimes heart—invested in the institution constitutes a difficult mix when it comes to satisfying all the different perceptions and realities of institutional needs. The bottom line is to answer the question, What is this investment of technology going to bring to the institution's bottom line? Then the question turns to how you determine what the *bottom line* is for your role.

For the CFO, it comes down primarily to money and infrastructure: Are we being good fiscal agents of the resources under our purview? For the CIO, it comes down to services: How well are we providing systems and services to support the infrastructure of our business operation, as well as the broader needs of the institution's teaching, research, and learning communities?

The key is in the translation of the concepts. CIOs must understand their responsibility to know strategic processes and core needs of the organization. CFOs

must see the central need for technology to be a catalyst in what they do each day and how effective use of technology feeds their business processes. They must meet (often) and discuss how the institution's finite resources can be used most effectively to achieve clear short- and long-term goals and then be able to communicate these goals effectively to their presidents and boards of trustees.

Understand the Pressures that the Other Side(s) Faces

Presidents know leadership, relationships, general business operations, and institutional vision. They also are primarily charged with the bottom line—the fiscal health of the institution. Trustees generally keep a check on these things, too, but their focus, especially today in small colleges, is on efficient and effective strategic operations.

Trustees keep pressure on the presidents and their CFOs to be responsible with the resources of the institution. The CFO has the tenuous position of walking a tight rope between the hard-line balance sheets of a purely business operation and the much more ethereal demands of a teaching and learning community of faculty and students. It's not pretty, but if CFOs can make concrete connections between technology expenditures and

business outcomes, their jobs of reporting and justification become much easier.

A strong partnership between the CIO and CFO consists of honest communication, transparent financial exchange, and clear translation of expenditures to outcomes. Another major key ingredient is a mutual agreement on the outcomes that are best for the needs of the institution. Many times, outcomes are not defined or clear and just default to maintaining the attitude of "do what you've got to do in the cheapest way possible." It is crucial that operational goals are discussed and expected strategic outcomes are clear.

I am not suggesting that all CIOs need an MBA, but I do believe that we all need to have a much broader understanding of institutional strategic business operations and, especially today, a better business-oriented approach to how we provide technology services and why (in terms of strategic institutional outcomes) we spend funds on technology infrastructure.

With the requirements of federal, state, and accreditation-related reporting demands, as well as all the other complexities of higher-educational operations today, technology is obviously crucial to our organizations and definitely has

Figure 2. How good CFO/CIO partnerships produce good institutional outcomes



many obvious returns. In higher education, specialized technology systems, software, and knowledgeable support are paramount to faculty research and teaching, as well as to students' scholarship and development. We CIOs just have to do a better job of communicating how addressing these technological needs are strategic and integral to the institutional mission.

Doing things frugally at my institution is definitely smiled upon, but *not*

at the expense of strong, reliable, and effective services for all of our stakeholders, especially our students. I believe that a sense of excellence, responsibility, and trust is a huge part of our approach. That sense of trust, excellence, and pride in our work is led by our president and is a clear responsibility for our CFO and for me to adhere to, promote, and convey.

Concluding Thought

The next time you meet with your CFO, prepare to focus on developing some

strategic institutional goals and outcomes and a few of the previously mentioned linkages. Show that return on investment is a concern to you. It will not only build trust with your colleagues but may also change your perspective on your career.

Keith Fowlkes, MA, MBA, is CIO at Centre College in Danville, Kentucky. Reach him at keith.fowlkes@centre.edu.

Snapshot

My First Encounter with a Budgeting Process

by Cathy O'Bryan

Back in 1999, I made the switch from director of technology for a large school district on the north side of Chicago to manager of a technical training unit at a large "Big Ten" university. I was fully prepared to be a small fish in a much larger sea and to have a narrower area of focus. My expertise in curriculum development, instructional techniques, and leadership of the instructional technology transformation of the "typical classroom" were focal points of great interest. I was not prepared for the changes in my fiscal responsibilities—otherwise known as budgeting and reconciliation.

Upon arrival, I discovered that I had agreed to manage an entirely cost-recovery unit that provided fee-based technical training. One would think that this would have come up in the interview process. However, with my limited knowledge of institutional lingo, I don't believe it did. I can't say for sure. But I *can* assure you that the fact that this technical training unit had been in the red for the previous five years to the tune of five and six figures was not mentioned once. My career decision would have been different had I known that.

Upon arrival, I discovered that a thorough working knowledge of AR, AP,

revenue, general funds, green dollars, net and reconciliation was expected. AR? AP? Off to Wikipedia I went after every meeting with the finance department. Aren't all dollars green? Why are some funds general? Are others more specific? No wait! I could do line-item breakdowns on general funds ... hmmmm.

As for reconciliation, it was very similar to a giant checkbook that had to balance across a 72-page spreadsheet set. Amazing! My very patient new boss spent hours explaining each item and then began to ask me "simple" questions such as, "What is that \$174.36 for?" I spent about ten hours trying to find that alone.

Finally, I set my pride aside and asked my father, a retired CPA, to look over the 72 pages. I remember his reply word-for-word to this day: "You don't have a cost problem, you have a revenue problem. Get out there, meet your potential customers, find out what they need, produce it, and sell it. The costs will take care of themselves when you have a revenue stream."

Wonderful! Something that I knew I could do well. With my background in education and faculty development, I focused on developing a set of professional

development products that were a good value, meaningful, and easily customizable. Much work needed to be done in this area. I spent my time and talents rebuilding the service offerings, including the creation of an online learning team.

We ended that first year in the black with a revenue growth of 212 percent. Sure enough, the costs took care of themselves. The \$174.36 was a projector bulb, and I'll never dig that deep again for so little gain. I went with my strengths.

As for my new boss, he was thrilled, but rightfully continued to spend much of the next five years helping me appreciate what the budget could tell me. Together we built more meaningful budgets and reduced those 72 pages to about 30. More important, six years later, we had five times the staff, a diverse set of program offerings, and 93 percent customer-repeat rate. In my tenth year there, I was appointed to the much-coveted divisional budget committee. And yes, I'm very glad that I made the decision that I did.

Cathy O'Bryan is director of client support at Indiana University. Reach her at caobryan@iu.edu.

Funding Information Technology in Academia

by Geoffrey C. Tritsch

Editor's Note: The following article is an abridged and updated version of an article that appeared in the Winter 2009 edition of the ACUTA Journal. The original article (www.acuta.org/wcm/acuta/pdf/jor13-5.pdf) includes additional discussion on charging metrics and pros and cons of an FTE model.

An institution needs a consistent, holistic view of charging for technology services—an algorithm that is fair across all services and all departments. Today's economic challenges, changing revenue sources, and trends toward fiscal accountability necessitate a move away from outdated funding models, cross-subsidization, and unreliable one-time capital allocations and toward an approach based on the true cost of each service, differentiated service levels, and life-cycle funding. The need is for a predictable and controllable IT funding model that will do the following:

- Keep pace with rising demands for technology services
 - Provide pricing and funding strategies that can scale to meet future needs
 - Support cost-effective IT operations
 - Provide a context for making IT decisions
 - Cover a wide range of clients and services
 - Be durable under the pressure of changing demand and shifting services
 - Address the technology objectives in the university's strategic plan
- That's a lot to ask of one, simple funding model! But there's more.

The IT cost-recovery model also becomes the framework for the ongoing acquisition and management of new technologies and applications. Given that

services and technologies will change, the income to support IT services has to adjust as those changes occur. Since you don't have unlimited resources, you can't be everything to everyone. You need to prioritize, maximize, and make decisions as part of your overall *technology context*—an institutional framework for evaluating technology decisions.

Why You Need a Context

While some institutions have developed a context when it comes to campus master planning (commonly reflected in a consistent look and feel to buildings on campus), most institutions don't have this same kind of context when it comes to technology in general, much less to the funding of technology. Without this context, technology decisions are too often made on an inconsistent, ad hoc basis. This is partly because few schools have gone through the process of determining the true costs of their IT services nor have they developed a methodology for recovering those costs. Consequently, we find that many suffer from some or all of the following maladies:

- While IT is acknowledged to be critical, the funding for technology services is inadequate and/or unpredictable.
- Many schools recover voice costs through telephone charges to users but do not charge for other technology services.
- Budgeting for technology costs is not all inclusive. Funding for system renewal and replacement is often not included, but should be.
- Data network electronics and cable and wire infrastructure are in constant need of improvement to ensure stability

and redundancy. There is often no identified funding source for this work.

- Budget cutbacks and increasing demands for fiscal restraint are occurring at the same time as the disappearance of traditional revenue sources (such as income from residence hall telephone service).
- Traditionally separate services (voice, data, and video) continue to converge. Continued deployment of services such as VoIP and video over IP have a direct impact on support services such as help desk, troubleshooting, and staffing.
- IT expenses often exceed income. Budgets are balanced using depleting reserves, and equipment replacement is deferred.
- IT income frequently does not track with expenses. For example, the data network is often funded through flat general allocations that are unrelated to the growth or decline of the services provided or to the demand on IT resources.
- IT departments tend to be insufficiently staffed to meet growing expectations. While most IT departments do an admirable job of keeping up with service demands, increasing requirements can eventually overburden the staff, raising the potential for staff burnout and the likelihood of losing key personnel.
- Many institutions charge for voice but not for data and other IT services. This will not continue to work as voice, data, alarm, and video services continue to converge.

So, how does one go about getting to that predictable and controllable IT funding model?

First of all, keep in mind that much of the benefit of developing funding models is not the model; it's the process. The process forces an in-depth consideration of all of the technical, operational, and political issues associated with what you do, how you do it, and the benefits you provide to the user community.

The model itself is a relatively straightforward matter of allocating costs to services. The complexity lies in developing an in-depth understanding of your services and costs. Here's the process in a nutshell:

1. Identify the specific services you provide and the components that make up each service (dial tone, voicemail, wired data, wireless, etc.).
2. Identify the expenses associated with each service, including staff time.
3. Add in any applicable expenses not presently addressed within present budgets.
4. Estimate depreciation schedules to fund future expansion and replacement. These should be based on capital cost and useful life of the applicable equipment.
5. Identify new services expected to be implemented within the time frame of the project and allocate those across the services
6. Roll up the identified services into "chargeable" user services. Remember that not all services are chargeable. For example, DNS, DHCP, and LDAP are all services that you provide, but none are chargeable. These "pseudo-services" need to be rolled up into a logical data network or data access charge.
7. Estimate the growth or decline in services and changes in costs over your planning horizon.
8. Identify current revenue sources and cost offsets.
9. Develop rates and cost-recovery strategies as applicable.

Once you have accomplished the above, you should be able to plot a matrix of costs against chargeable services. The complicated part is making the decisions, such as how to roll up and allocate the

costs for the underlying, shared services (such as DHCP) and how to allocate time for people who serve multiple functions. Additionally, it makes sense at this point to develop an approach that will deal with future services as well.

There are a number of cost-recovery options, each with pros and cons. Here are the major arguments for charging for services:

- Charging shifts responsibility to the departmental level. This is not desirable.
- It makes the "cost causers" the "cost payers."
- It makes users aware of the cost of technology.
- It controls costs by eliminating the "if it's free, I'll take ten" mentality.

Here are the major points against charging:

- The services are required by virtue of the academic mission and are therefore considered to be critical core services.
- Services should be provided based on need, not on budget. Less well funded departments suffer if they must pay for services.
- Provision of services without charging saves the cost of management and tracking systems.

Whether or not you charge, there are a number of different ways to approach technology cost allocation (by port, by traffic, by head count, etc.). There really is no "right" or "wrong" way to do all this; it is primarily a matter of what works best for you in the long run. Whether or not you charge, base IT cost allocations on the true costs of services as if IT were a stand-alone business responsible for its own profits and losses.

An appropriate cost allocation/cost-recovery algorithm must be:

- *Objective.* The "measurables" should be unbiased and the formula fixed in advance.
- *Simple.* It must be easy to perform the measurements, apply the formula, and bill those who are going to pay for specific services (assuming billing is going to be done).

- *Transparent.* Concerned parties should be able to comprehend the logic and the formula and be assured that the values are correct and the formula appropriately applied.
- *Relevant.* Measurables should correlate with cost.
- *Manageable.* It should be easy to keep up-to-date as things change.
- *Reasonable.* Amounts recovered should not exceed full costs, or if cross subsidizing is necessary, the logic should be understood.
- *Growth-oriented.* It should be easy to reallocate costs as the network expands or services change.
- *Encouraging of desired behavior.* Approaches used should encourage behaviors that are beneficial to the institution as a whole and discourage those that are detrimental.
- *Viable long-term.* It should continue to be applicable into the future.

Conclusion

The good news is that the process (as painful as it might be) offers the opportunity to educate senior management and the campus community on what it really costs to deliver technology services and to firmly establish the value that technology has on campus. There is an increasing demand for technology services and resources due to the increased role of information technology. However, without significant thought to funding, IT will not be able to meet the long-term goals of the institution, implement new technologies, or even continue to adequately support the current technologies already on campus.

Geoffrey C. Tritsch is a principal with Vantage Technology Consulting Group. Vantage is an independent consulting firm specializing in the strategic application of technology in higher education, health-care, and the public sector (VantageTCG.com).

Special thanks to Mike Grunder, former ACUTA president, now also with Vantage, for his help in editing this article.

Everything Old Is New Again

Issues at the FCC in 2014 and into 2015

by J.G. Harrington

The FCC has a full agenda, with issues touching on nearly every area it regulates, many of them involving long-standing proceedings. This article reviews the key items on that agenda from the perspective of ACUTA members.

Network Neutrality

In January 2014, the U.S. Court of Appeals issued a split decision on the FCC's 2010 network neutrality order. The court upheld the FCC's authority to adopt rules and the "transparency rule," which required Internet service providers to disclose information about their services (including terms and conditions, speeds and network management practices), but it overturned the FCC's antidiscrimination and no-blocking rules, even while leaving a path for the FCC to re-adopt similar rules.

The FCC responded by issuing a notice of proposed rulemaking on May 15, 2014. The notice proposes requiring more disclosures under the transparency rule, including information useful to content and application providers. It also proposes modified antidiscrimination and no-blocking rules, using a standard that would not necessarily stop Internet service providers from offering preferred service to content and application providers that are willing to pay extra. The notice also asks for comment on ways to prohibit these kinds of "fast lane" arrangements, including treating Internet access as a common carrier service.

FCC Chairman Tom Wheeler would like to adopt new rules by the end of 2014, but that may be difficult. The comment period for the new rules ends on September 10, which would not leave

much time to write what will be a fairly complex decision, or for the Democratic FCC commissioners to negotiate about what regulations they can agree to adopt. Chairman Wheeler also would like to preempt state limits on municipally-operated broadband networks. This proposal originally was to be included in the network neutrality rulemaking, but it now appears that there will be a separate proceeding.

IP Transition

As many players in the telephone industry have said, the transition from traditional telephone service to Internet Protocol-based service already is underway, but that does not mean that the underlying regulatory issues have been decided. The FCC is much closer to the beginning of the process than the end.

In January, the FCC decided to accept applications for "experiments" to explore how the transition would affect customers. Applications were filed by AT&T and Iowa Network Services. The FCC was scheduled to act on those applications at its May meeting, but did not, so it is not clear when they will be approved. The FCC also plans to accept applications for experiments targeting rural areas; it received more than 1,000 expressions of interest from parties that may wish to participate.

The FCC has not decided any of the basic issues concerning the transition. These issues include the regulatory model for IP-based telephone service – the traditional common carrier model, a hands-off approach or something in between; how service providers will interconnect; and how the transition of customers to

IP-based service will be handled. These decisions are not expected to be made until 2015, or possibly later.

Intercarrier Compensation

The appeal of the FCC's 2011 Universal Service Fund/Intercarrier Compensation Transformation Order was decided on May 22, 2014. The U.S. Court of Appeals for the Tenth Circuit turned back all of the challenges to the order, and upheld all of the FCC's rules.

The transition adopted in 2011 continued during the appeal. This means that access rates are being ratcheted down each July 1, with corresponding increases in the Access Recovery Charge that is supposed to fill much of the revenue gap for local telephone companies. The FCC also continues to make small adjustments to the rules, most recently in an order at the end of March 2014.

In 2011, the FCC asked for comment on several issues that were not decided in the original order, including treatment of originating access rates and toll free calls and what interconnection rules should apply to IP-based services. In the case of IP interconnection, the activity has shifted to the IP transition proceeding, but the other issues are stagnant. The FCC may have been waiting for the results of the appeal before moving forward.

Universal Service

The FCC also continues to implement the universal service elements of the Transformation Order, which focused on service in high cost areas. Funding under Phase I of the program continues, including auctions to support wireless service via the Mobility Fund. The FCC

continues to work on Phase II, which requires completion of cost models and is supposed to include auctions for all services. However, no timing has been announced, and questions remain about which providers will be eligible.

The universal service elements of the 2011 order also were subject to the appeal that was decided in May. As it did for the intercarrier compensation rules, the court upheld the FCC's revised universal rules in their entirety.

The FCC is working to modernize the Schools and Libraries Program, in coordination with President Obama's ConnectED initiative. The FCC has set a goal of freeing \$2 billion annually for broadband deployment, largely through changes in the eligible services and new efficiencies in the procurement process. For instance, the FCC is considering eliminating subsidies for paging service and wants to encourage schools and libraries to purchase services through regional or statewide consortia, rather than individual contracts. The FCC asked for "focused comment" on these issues in March but has no specific date for action.

The FCC has not taken any new action on Lifeline service other than implementing its last major order. There are no significant proceedings pending, and no meaningful changes are expected.

Spectrum

The most important spectrum-related proceeding at the FCC is the broadcast incentive auction. The FCC set the basic rules for that auction at its May 2014 meeting. The FCC will conduct two auctions simultaneously – a reverse auction in which television station owners will sell spectrum rights and a forward auction in which wireless companies will buy the spectrum freed up by the broadcasters. The reverse auction will use a "descending clock" format, where the price to be paid will go down as the auction continues. The forward auction will be a standard, high-bid-wins auction. However, the FCC adopted bidding limits

to preserve some licenses for wireless companies that do not hold any low-band spectrum. The rules also set aside spectrum for unlicensed use, much of it in the "duplex gap" between uplink and downlink spectrum for wireless service. The process of repacking television stations to create contiguous spectrum blocks will end by 39 months after the completion of the auction.

The FCC also continues to look for spectrum in other bands. Late in March 2014, it reallocated about 150 MHz in the 5 GHz band to unlicensed services, and it proposed to open up more spectrum in that band. The FCC is considering rules to rework the 3.5 GHz band and to accommodate unlicensed services. Action on both of these proceedings could happen in late 2014, although it is more likely to occur in 2015. There also is an ongoing effort to obtain spectrum now assigned to federal government agencies, although there is considerable uncertainty about what spectrum will be made available and when.

Boosters, Repeaters, and DAS

Last year's booster and repeater rules are now in effect, after a delay at the request of manufacturers that had been unable to get equipment approved by the FCC by the original deadline. All boosters must be registered with wireless providers, and wireless providers must permit the use of consumer boosters that meet specific technical standards.

The FCC is considering how to speed up wireless deployment, including modifying its environmental rules for antenna installations that are unlikely to have an environmental impact. This proceeding also includes questions concerning deployment of boosters and distributed antenna system (DAS). A decision is possible late in 2014.

Reliability and Resiliency

Although reliability and resiliency were a significant focus following the 2012 derecho storm and Hurricane Sandy, that focus has dissipated. The FCC released

an order on 911 reliability issues in December 2013, requiring providers of 911 services to take steps to maintain reliability and to certify annually that they meet these requirements. However, no other specific action is pending, and the FCC stopped the public hearings that it began in early 2013. It is unlikely that reliability and resiliency will get significant attention unless there is another natural disaster that has an impact on communications infrastructure or 911.

Transactions

Chairman Wheeler has taken an aggressive stance on some matters relating to transactions. He has discouraged a potential Sprint-T-Mobile transaction (a very unusual step) and has pushed forward with an order intended to discourage local marketing arrangements between television stations in the same market.

Several significant transactions are also under consideration by the FCC. The two largest transactions are the acquisition of Time Warner Cable by Comcast and the acquisition of DIRECTV by AT&T. Both transactions raise significant questions about concentration in the communications business. Comcast has tried to address those questions through a series of voluntary commitments, such as agreeing to comply with the FCC's old network neutrality rules if the transaction is approved, and through divestiture of cable subscribers to Charter and a new company that will be independent of both Comcast and Charter.

Unlike the Comcast-Time Warner transaction, the AT&T-DIRECTV transaction would eliminate some competition in the video market because of overlap with AT&T's U-verse service. However, AT&T also is offering voluntary commitments, including expansion of its broadband service to 15 million additional households and its own network neutrality commitment. It is likely that both of these transactions will be approved, although FCC action may not take place until 2015.

The FCC also is considering a series of smaller telecommunications-related transactions, including the sale of AT&T's local telephone business in Connecticut to Frontier. In general, these transactions are expected to be approved.

Longer-Term Outlook

The FCC's agenda for 2014 and early 2015 is already fairly full, and existing proceedings likely will engage most of its capacity for major action. Thus, the FCC is not likely to have any major new initiatives, though there are some areas where additional activity is possible.

First, there is increasing pressure on the FCC, much of it from Netflix, to look into interconnection between Internet service providers. Chairman Wheeler has said that this question is separate from network neutrality, but it is an area of increasing dispute, as well as a potential cause of much of the apparent congestion on the Internet, as the capacity of

connections between Internet service providers and intermediary companies, like Level 3, does not expand fast enough to account for traffic growth. This issue could become part of the network neutrality proceeding or spawn a separate inquiry.

Second, the FCC maintains a focus on ensuring that long-distance calls get through to rural customers. The FCC is implementing an order requiring reports on rural call completion adopted in November 2013, despite protests from affected telephone companies that the rules are too burdensome. Once the reports start to be filed, it is likely that the FCC will take enforcement action against carriers that it thinks do not complete calls to all customers.

Chairman Wheeler's tenure also has included several examples of "soft" regulation to address consumer issues. The most prominent example was the pres-

sure he placed on the wireless industry to adopt new policies for unlocking mobile telephones. This pressure resulted in a voluntary agreement to make it easier for consumers to take phones from one carrier to another. It is likely that similar efforts will continue across the industries regulated by the FCC.

J.G. Harrington is currently special counsel at the Washington, D.C., law firm of Cooley LLP. He has represented telephone, mobile communications, cable television, and new technologies clients on federal and state regulatory issues and has worked with other clients to address issues that arise in their interactions with service providers and regulators. He has developed special expertise in matters relating to telecommunications competition, regulatory issues affecting new technologies, broadband services, privacy, inter-carrier compensation, universal service, telephone interconnection, and telephone and cable rate regulation. Reach J.G. at jgharrington@cooley.com.

ACUTA Calendar of Events



Fall Seminar • October 26–29, 2014 • Boston, MA

Boston Park Plaza Hotel

Track 1. Trends in Service and Technology Delivery

Track 2. Securing Our Connected Environments



Winter Seminar • January 25–28, 2015 • Anaheim, CA

Disneyland Hotel

Track 1. Exploring Identity and Access Management Strategies

Track 2. The Ever-Evolving Realm of Mobility



44th Annual Conference & Exhibition

April 19–22, 2015 • Atlanta, GA

Hyatt Regency

Educational Presentations • Professional Networking • Exhibit Hall

2014 Award Winners

At the Annual Conference each year, ACUTA is proud to recognize some members who have contributed their time and talents in very special ways. Here are three people who were honored in 2014 for giving their best efforts to strengthen ACUTA and make the association more valuable for everyone.

Bill D. Morris Award Simeon Ananou Salisbury University



President Ron Kovac presented the Bill D. Morris Award to Simeon Ananou at the Annual Conference.

The Bill D. Morris Award represents ACUTA's highest level of recognition for an individual member. The recipient, in the estimation of the president, exemplifies the dedication, vision, professionalism, and leadership that ACUTA's 17th president, Bill Morris, brought to this organization many years ago.

At the Annual Conference in Dallas, as he introduced Dr. Simeon Ananou as the recipient of this award for 2014, ACUTA President Dr. Ron Kovac remarked, "Dr. Ananou exemplifies the true spirit of ACUTA. He has shown, through his accomplishments on the board of directors and various committees, the qualities of true leadership. We are proud to have him serve the association with us on the board and hope he continues to be a vital part of ACUTA for years to come."

Over the past 18 years, Simeon has played an important role in the direction of ICT and IT in general at a number of institutions of higher education. He currently serves as the CIO at Salisbury University. He has served on numerous ACUTA committees including the Web Portal Task Force, the Program Committee, the Mentoring and Career Development Task Force, and the Membership Experience Committee. Simeon holds a D.Ed. from Indiana University of Pennsylvania, an MBA from Baker College, and a BA from The Ohio State University.

ACUTA is pleased to recognize the winner of the Bill D. Morris Award, ACUTA Director at Large Simeon Ananou.

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The ACUTA awards program is just one of many benefits of the association. If you know a campus that is not a member of ACUTA, invite them to become a part of the network. Although your invitation to your peers is much more significant, the office staff will be happy to follow up on your suggestions for new members at any time. Just call Joanie Profitt at 859/721-1658 or email jprofitt@acuta.org.

**Thanks to Windstream for
sponsoring the Ruth A.
Michalecki Leadership Award
and the Jeri Semer Volunteer
Recognition Award.**

Ruth A. Michalecki Leadership Award

Joseph E. Harrington

Boston College

Since 2001 this award has recognized outstanding leadership among the ACUTA membership. The award honors the memory of ACUTA Past President Ruth A. Michalecki of the University of Nebraska Lincoln for her leadership of ACUTA and the communications technology profession.

The person selected for this award:

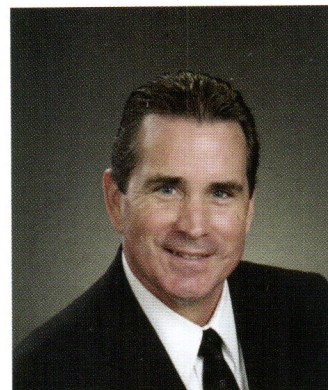
- Motivates and fosters collaboration to accomplish the goals, objectives, and mission of his or her institution or company
- Actively participates in the education, professional development, and mentoring of other professionals
- Demonstrates initiative in creating programs, projects, or activities that impact the community, and
- Engages in activities that directly benefit ACUTA or the broader higher education community.

This year's winner, Joe Harrington, is Director of Network Services at Boston College, where he has been for over 20 years. Joe's casual but forward-thinking spirit is one of many characteristics that make him shine in any leadership role. His department's central responsibility is to constantly maintain, upgrade, and expand the physical plant while protecting this substantial investment and core business. Joe has served in the IT/communications profession for over 30 years.

He has been active in ACUTA for the past 10 years in roles such as State Coordinator, member of the Awards Committee and the Membership Committee, and Director-at-Large before his election to the ACUTA presidency.

As President, Joe led the way to forming the Jeri Semer Volunteer Service Award. He developed and worked with the Board, committee chairs, and ACUTA staff to form a Committee Collaboration Task Force so committees could better collaborate and share information.

We are pleased to recognize Joe, who personifies the values and characteristics of a leader in every way.



Jeri Semer Volunteer Recognition Award

Christian Boniforti

Lynn University

In its third year, this award is granted to a subcommittee chair, committee or subcommittee member, institutional or corporate affiliate member, associate or emeritus member who has provided extraordinary service during the year. The award is named after the late Jeri Semer, ACUTA Executive Director 1994–2011, who saw the future of the organization reflected in its active members and did much to foster the growth of our extensive volunteer program.

Chris Boniforti, CIO at Lynn University, has been a member of the ACUTA Membership Experience Committee (MEC) and the Young Professionals Subcommittee. This year he led the Department of Homeland Security Collaboration Working Group, a subgroup formed within the MEC to find ways for ACUTA to collaborate with the DHS. As the leader of this working group, he chaired several conference calls throughout the year that included not only MEC members and ACUTA staff but also Department of Homeland Security employees.

During this time, he led the group to propose three new initiatives to the Board of Directors and then volunteered to be the ACUTA representative on the DHS Industrial Control Systems Joint Working Group as well as to chair the newly approved Cyber Security Task Force. His appointment to the ICSJWG began in January 2014, and solicitation for members to join the ACUTA Cybersecurity Task Force will begin soon. In addition to these two appointments, he also assisted with selecting resources to be displayed and wrote copy for the cybersecurity resource section of the website, which will be announced after the Cybersecurity Task Force is formed.

None of these new initiatives would have been possible if not for his extra effort driving the DHS Collaboration Working Group. Chris has truly gone above and beyond to serve ACUTA and bring forward new ideas and opportunities that will benefit the entire ACUTA membership.



Mar'ia Adkisson of Windstream (left) and ACUTA Immediate Past President Jennifer Van Horn joined Chris Boniforti as he accepted the award.

For University IT, Success Starts at Home

by Johna Till Johnson

Compass Direction Points

- Clear role definitions matter. Having clear definitions is critical for the success of IT organizations and the educational institutions they serve. IT organizations with clear role definitions are twice as successful as those with unclear role definitions.
- Operating models are also important. Developing a program to review and improve the IT operating model yields success.
- Process is your friend. Focus on outcomes and keep it simple. Engaging your teams to regenerate more effective processes will start you on the path to top-tier success.

For many universities and educational institutions, “process” is a dirty word. Universities thrive on the rough-and-tumble exchange of ideas, and IT departments within them are frequently characterized by the same culture. In many respects, this is a positive thing: Educational institutions are often ahead of the pack when it comes to the innovative use of technology. But this lack of process, role definition, and structure can hurt university IT departments when it comes to meeting defined goals and delivering on broader university requirements. This report reviews operational best practices and their success correlation, based on Nemertes’ benchmark data.

Top Trends

- The Operating Model Rules. Clarity of role definition and the operating model are the foundations of a successful IT organization. As IT leaders—particularly at educational institutions—we often put the health and well being of the operating model on a back burner while focusing on responsiveness to the needs of professors, departments, and students. But making the time to focus on operating models has been demonstrated to deliver clear benefits.
- Process Will Set You Free. As noted, “process” is often a dirty word, particularly at educational institutions that prize innovation and a “get-er-done” mental-

ity. But implementing good processes can free an IT organization from wasted effort and never-ending projects. What’s a “good” process? One that’s clear, well-documented, and simple.

- Centralizing Management. Centralized management alone is not necessarily going to improve IT success—but having consistent management information from which to make decisions that mitigate risk and lead investment decisions is key to improving IT success. University IT departments should focus on having a “single pane of glass” to view operations across the institution.

The Operating Model Rules

As noted, having an effective operating model is a critical part of IT success. But what, exactly, is an “operating model”? The operating model consists of several elements:

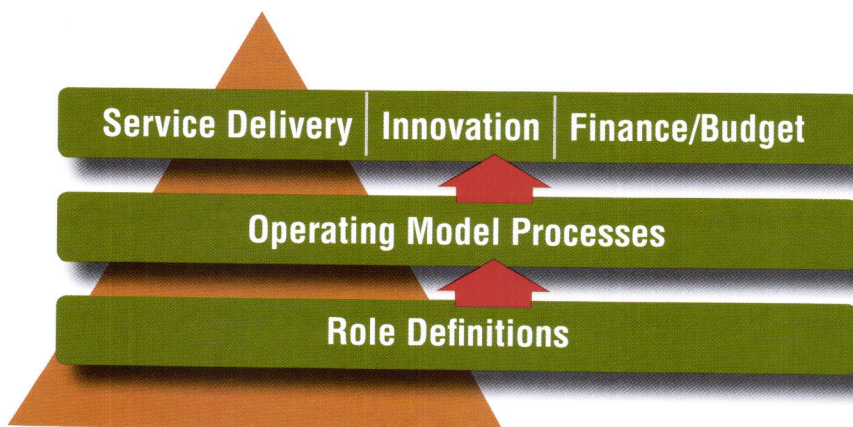
- Roles and responsibilities
- Methods and processes for how service is delivered
- Interactions between organizations including handoffs

These elements build on each other to provide the foundation for a successful IT organization. Figure 1 shows the hierarchy of dependency.

Role Definitions are Key

Role definitions are more than job descriptions or lists of tasks to be accomplished by a function. Both of those are very static views. A clear definition should be dynamic, meaning that it includes how responsibilities will change over time to adapt to the dynamics of the organization. In adapting, the definitions need to account for changes in processes that surround the technology lifecycle.

Figure 1. the Hierarchy of IT Success



This is particularly important in university environments, which often prize agility and require the ability to make rapid changes in roles and responsibilities. And it really is that simple: IT organizations with the best role definitions are the most successful. The better the level of role definition, the stronger the IT success.

There is nearly a two-fold better success rate for those with strong role definitions (highly successful) than those who have less well-defined role definitions (somewhat successful).

The implications are clear: The better a colleague knows his role and how it relates to other roles in context, the more effective is the entire organization. This does not mean adopting a strong “command and control” structure—which is anathema to many university organizations. Rather, the goal is a flat, collegial environment in which everyone has a defined role and understands when and where to hand off to his or her colleagues.

Clear role definitions thus yield two practical advantages: First, they enable success within the university environment, which typically prizes collegiality ahead of hierarchy. And second, because IT managers aren’t involved in issuing top-down commands, they’re freed up to focus on more strategic initiatives that are higher priority to the university. The success of the operating model also has a strong linear correlation to IT success.

The operating model expands beyond role definition to include all of the processes and interactions that allow an IT organization to deliver services. IT Information Library (ITIL) frameworks can be part of this, but they are a tool, not an operating environment. A successful operating model goes beyond the delivery of technology to the end user. It includes understanding the real cost of technology, what the project and program overhead of service delivery are and how the IT budget is built. All of these inform the ability to prioritize strategic

initiatives, make correct sourcing decisions and to manage the technology risk through the lifecycle.

There is a high degree of dependency between the elements of the operating model. We asked the IT executives what they would do to make their operating model more successful. (Please see Figure 2.) The mix is even at 40 percent each for improvements in defining roles and improving processes. IT leadership knows what ails them. What leadership doesn’t understand is how important these issues are to IT success. IT leadership focuses on maintaining the current infrastructure and meeting budget commitments. Changing processes that “aren’t broken” may seem like a secondary effort, but our research shows that it is not.

In a nutshell, managing IT is really about managing risk—operating risk and/or financial risk. A well-defined operating model provides the touch points and processes to do the most effective risk management.

Process Will Set You Free

For all the right reasons, process has become a four-letter word in IT, particularly in a university environment. And it’s true: process has often been overused to the point of becoming a roadblock rather than an enabler. The notion if a little is good then more is better has been applied, but it doesn’t work for an IT organization.

Therefore, having clear processes is key, but the processes need to be simple and easily understood—and documented. Fundamentally, having clear processes is critical to IT success. There is strong correlation between operating models and well-defined processes. The linkage is simple. If the operating model, which includes role definition, is a powerful indicator of IT success and clear process definitions are a dependency for operating model success, then IT success is leveraged on how well the processes are documented and understood.

Process is possibly the most dynamic substrate within the operating model—a

Figure 2. What Can Make Your Operating Model More Successful?

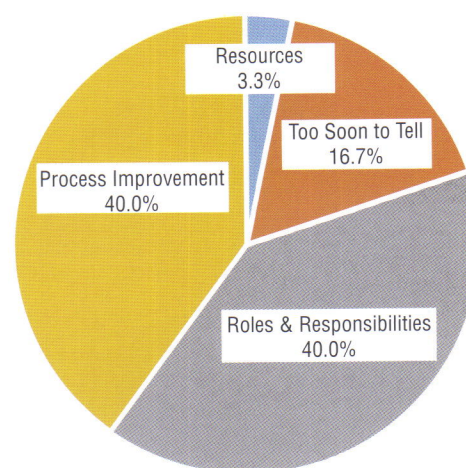
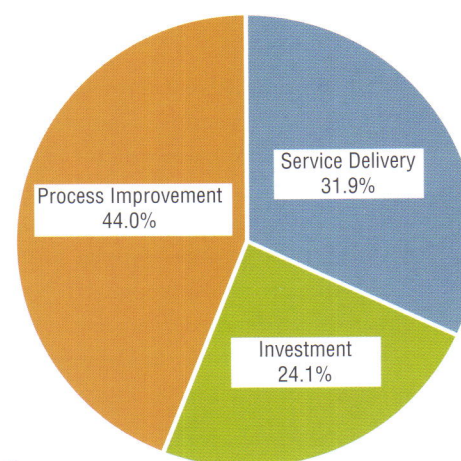


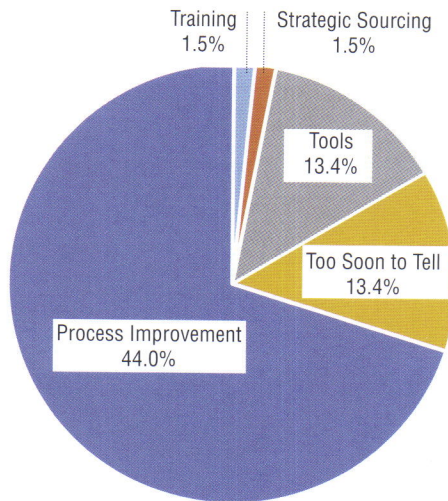
Figure 3. What Can Make IT More Successful?



process should be reviewed often, and modified or jettisoned if it’s no longer effective. Our benchmark data indicates that a nine-month review cycle is optimal for doing process review.

However, it’s worth noting that not every process need be reviewed on this cycle: IT leaders tend to review only a subset of processes during each review cycle, meaning that it takes two to four years to go through the whole mix. They also informed us that the goal was to simplify and clarify—to address the gaps

Figure 4. What Can Make Central Management More Successful?



in the processes that were uncovered in normal operations or make adjustments based on new tools and new technology deployment. Unsurprisingly, 44 percent of IT leaders said process improvements as their top priority—making it the single most important success factor for IT, ahead even of increased investment (24 percent) or improved service delivery (32 percent). (See Figure 3.)

Centralizing Management

As the technology we deploy becomes more integrated across technical disciplines, the importance of a good management methodology continues to increase. The health of the infrastructure as well as all justification for investment in infrastructure start with the monitoring and metrics that come from a working management service.

With a clean operating model and great processes, the final step to making IT successful is managing the infrastructure. That said, centralized management does not correlate to IT success. However, centralized management does correlate with operating model success.

And once again, it all comes back to process improvement: 70.1 percent of

benchmark participants identify process improvement as the biggest need for improving operating model success. (See Figure 4.)

The takeaway? Focus on centralizing management, if it's appropriate for your environment—but only after you've reworked your role definitions and developed a program for regularly reviewing, assessing, and simplifying your processes.

Recommendations

It's clear that IT departments in general—and university IT departments in particular—need improvement when it comes to operating models, processes, and management. But what to do? Here-with, some recommendations based on Nemertes' work with educational institutions and others:

1. Engage your customers. Sit down with a department—preferably one that you already have a good relationship with—and ask where IT might improve from a process perspective. Gather their insights and comments, and bring it back to the team for review and discussion.
2. Based on that feedback, select an area for improvement. Review the roles and responsibilities of the team. This process can involve several tools including a functional analysis of tasks and/or a use case scenario to identify gaps. Look at the processes and ask yourself these questions:
 - a. Do we know what process is the most important (most used)?
 - b. Is the process as simple as possible, but no simpler?
 - c. Can someone who doesn't understand the process read it and know what to do?
 - d. Do you know all the groups who need to be involved in or aware of this process?
 - e. Do all those groups know that they are involved?

This review will lead to a series of improvement options, which can be prioritized and made into an action plan. The key is to make this an opportunity to involve your team in creating the

processes, giving them ownership and authority.

3. Now focus on management.
 - a. What management information are you currently collecting?
 - b. Is there additional management information that could be collected?
 - c. What is the value of the information we're collecting?
 - d. How can we be sure we're reporting on metrics that matter to departments and the university as a whole?
 - e. Does this information let me know when I have to make an investment decision?
 - f. Does the information give an insight into risk and how to mitigate it?
 - g. Can the information be shown to a non-IT leader and be understood?
 - h. Does the information represent university priorities?

The bottom line: The operating model is critical to IT success. It has to be a high priority for any IT leader—particularly within a university.

Johna Till Johnson, CEO of Nemertes Research. Reach her at client-services@nemertes.com.

Benchmark Methodology

Nemertes conducted 205 interviews with IT professionals at 182 companies or organizations to compile its 2013-2014 benchmark.

Nemertes analysts conducted in-depth interviews, ranging in duration from 30 minutes to five hours (not always in a single phone call), with all of the benchmark participants. We also conducted several short follow-up calls or exchanged emails to clarify and augment data. During interviews, each analyst asked a pre-planned list of questions to ensure we asked the questions consistently. Many questions are open-ended, providing an opportunity for our participants to provide their own unbiased insight and observations.

About Nemertes Research

Nemertes Research is a research-advisory and strategic-consulting firm that specializes in analyzing and quantifying the business value of emerging technologies. You can learn more about Nemertes Research at our Website: <http://www.nemertes.com>.

Institutional Excellence Award 2014

TelePresence at Marist College

The Institutional Excellence Award is sponsored by Windstream.

Marist College's president and board of trustees recognized early on that IT would be used in teaching, learning, and scholarship to distinguish itself from other liberal arts colleges. Hence, IT has long been a part of Marist's vision statement, as well as the college's strategic plan.

Identifying the Need

Marist needed to better communicate and collaborate with geographically dispersed academic programs and business and research partners, without sacrificing the benefit of face-to-face meetings—while staying within the budget.

Marist has been successfully using primarily asynchronous online technologies in the college's distance-education programs, and faculty began to require real-time collaboration capabilities, particularly for joint research partnership activities. Faculty and administrators participating in these studies had to travel extensively to meet and collaborate with various research and business partners, costing time and money. Marist began using other Web conferencing solutions as alternatives to face-to-face meetings. But it soon discovered that although these technologies had their role in real-time communication, they were a low-quality substitute for face-to-face meetings that facilitate close collaboration, decision making, or relationship building.

The college also needed a better way to support its increasing global footprint. In support of Marist's mission of "helping students develop the intellect, character, and skills required for enlightened, ethical, and productive lives in the global community of the 21st century," Marist established an official branch campus, Marist-LdM, in Florence, Italy. Partnering with Istituto Lorenzo de' Medici (LdM), Marist offers several bachelor degrees, a master's degree program, a study-abroad

Freshman Florence Experience, traditional semester study abroad for Marist juniors and seniors, and the pre-college program for rising high school juniors and seniors. In alignment with its strategic goal to "maintain a distinctive and cohesive Marist Community at campus sites, online, and abroad," many Marist faculty and administrators travel to the Florence campus several times a year to provide administrative and academic support, increasing the strain on the budget and on employee productivity.

The college also wants to provide high-end, real-time collaboration tools that are easily accessible at a low cost for local community members and business startups. In order to stay competitive, today's businesses need to build partnerships and expand their market segments, but many do not have access to effective collaboration tools, resulting in lost opportunities. As a high-tech hub for applied research, business incubation, and technology transfer, Marist received a \$3 million grant in 2013 to support the New York State Cloud Computing and Analytics Center at the college as part of Governor Andrew Cuomo's Regional Economic Development initiative.

Marist's network infrastructure is largely composed of Cisco Systems' components, so the IT division assessed Cisco's videoconferencing solutions. They determined that Cisco's TelePresence system, with life-size, ultra-high-definition video and spatial audio system, was an effective substitute for the face-to-face experience. Thus Cisco's TelePresence system

was introduced as a proposed project to those at Marist who would benefit from access to such immersive video technology: academic deans, heads of major departments, the office of admissions, and the Marist Institute of Public Opinion. The pilot group quickly realized the benefits of the system to the institution and began developing use cases.

Getting Started

At first, it appeared that the cost of the system would be a major barrier. At the same time, however, the opportunity arose to obtain an economic development grant from Central Hudson Gas and Electric Corporation in Hudson Valley. The final approval was obtained in May 2011, and the installation was completed in September 2011.

While the TelePresence solution is not original or unique to Marist, it is unique for a medium-size, liberal arts college to make an investment in such a high-end system. Marist chose to install the Cisco



TelePresence is a lifelike, high-definition video system that creates an immersive, face-to-face experience and enables a powerful collaboration over the network. The TelePresence facility at Marist College will offer a rich multimedia communication environment to the Marist community, provide a technology environment for the college's business partners, and draw multiple new corporations and business partnerships to the college and the local community.

TelePresence system 3010 (CTS-3010), a three-screen system suited for business meetings with up to six participants per room sitting around a virtual table. Participants soon forget the technology and become engaged in the conversation as if in the same room.

Central Hudson approached Marist to begin an initiative in support of the growth of the local business community. The college proposed creating a TelePresence facility to which both Marist and local business communities would have access. The facility at Marist would be the only such facility located between New York City and Albany, providing a convenient, low-cost option. With the help of the economic development grant, a Cisco TelePresence system 3010 was installed in the newly constructed Hancock Technology Center in September 2011.

of IT/CIO were to provide oversight of the project, with the director of special projects, telecom, and networking in IT leading the project.

3. *Project's disruption to the Marist community.* Through careful planning, there were no disruptions to the community.

4. *Return on investment.* The college's strategic plan requires that IT be recognized as a leader in teaching, learning, and applied research. The pilot group developed a business plan that included opportunities for academic/curriculum, partnership/joint study, operational, community service, and revenue. The central theme of the use cases was to provide real-time, face-to-face capabilities for Marist and the local community to link with experts, research and business partners, and clients, while reducing time and money spent.

sessions. For remote participants who are new to videoconferencing, IT developed a Best Practices Guide that provides useful technical tips and recommendations.

Promotion of Technology and Maturity of Effort

As anticipated, users are now able to collaborate as if in person. The School of Computer Science and Mathematics has been working with the University of Baghdad (UB) on a number of projects. IT assisted UB in improving its infrastructure to support the training of individuals across Iraq in needed skills in enterprise computing and data center technologies; working to create a joint master's program in enterprise computing; and working with a faculty member and PhD student to provide the technology infrastructure for the student to complete his thesis. With security issues



Marist College, founded in 1946, is a liberal arts college located in Poughkeepsie, New York, with a traditional undergraduate student body totaling over 4,700.

Planning, Leadership, and Management Support

At Marist, the criteria for beginning any new capital project is based on the following four concerns:

1. *Funding.* The college obtained the economic development grant as part of the funding for this endeavor, but the initial cost of the system and the implementation services, provided by IBM Global Services, was still out of reach. Learning about Marist's use cases, Cisco and IBM worked to make it financially viable for the school to obtain the TelePresence system. With this trilateral partnership, IT received strong support from the Buildings and Grounds Committee for the remaining funding.

2. *Internal management team.* The executive vice president and the vice president

of IT's telecommunications and network team was a key part of the Cisco TelePresence system design and implementation process, working side-by-side with Cisco and IBM Global Services. One of the main technical challenges was integrating legacy PBX architecture, Cisco Unified Communications Manager (CUCM) architecture, and the new video infrastructure. Leveraging the existing in-house expertise for CUCM and legacy PBX architectures, the team was able to overcome the technical challenge and successfully integrate the new video infrastructure into the existing architecture.

Recognizing that many users are not accustomed to using videoconferencing technology, the IT support staff is always on hand to monitor and provide assistance during the videoconferencing

in Baghdad and the exorbitant expense of attending meetings in either Dubai or Beirut, the TelePresence system was exactly the technology needed.

Marist's library staff held a first-ever orientation session for the Museum Studies program's graduate students and faculty members in September 2013 via the TelePresence system. Students were introduced to the online library resources and interlibrary loan series. Students and faculty were then able to engage in Q&A sessions regarding library services. The feeling of "connectedness" with the main campus is critical as students finish their first year abroad and start their second year on the main campus.

The TelePresence system is also being used by the local community. Sponsored by Cisco Systems, an "Education Round-

table at Marist” series was established. The first of the series took place through the TelePresence system in the spring of 2012, where local superintendents were invited to a presentation and personal conversation with global education thought leader Charles Fadel to discuss the state of education and what it means to be a 21st-century educator.

Marist is also realizing administrative effectiveness through the system. The college was able to facilitate virtual, in-person recruitment interviews through the system, streamlining the executive recruitment process. The first round of interviews historically has been via a conference phone. Using the virtual in-person interviews, the search committee could observe facial expression and body language, helping to better determine the fit and improving the successful search rate while also reducing the search committee’s time and the cost of flying and lodging the wrong candidates.

Quality, Performance, and Productivity Measurements

Marist’s main quality, performance, and productivity measurements include real-time monitoring, observation, and solicitation of participant feedback following each session.

The college envisioned the TelePresence room to be a premium offering fully staffed by a video administrator and desktop personnel when a meeting is in process. Commensurate with the level of service offered, IT strives to create an environment for participants that speaks to superior experience. In soliciting feedback, IT learned that some surprisingly simple things were missing, such as simple instructions on how to share presentations. This was welcome feedback, and it was encouraging that no complaints about the video or audio quality and call setup were voiced.

Quality assurance efforts are classified as real time and historical based on which system is being used and for what purpose. Two IT staff members are present for the duration of any call in a nearby

room. The video administrator assists with the call setup and instructs participants on how the automatic camera switches based on who is speaking. This assistance also includes a quick review of best practices, if time permits. Desktop personnel are on hand to provide any help with content sharing or other computer-related questions.

While the call is in progress, the video administrator monitors the call statistics for issues that may affect the video and/or audio quality such as packet loss, latency, or jitter. If a problem should occur that results in the call dropping, the administrator will tactfully enter the room and inform the participants of the call status without the participants having to call or wonder how to proceed. The video administrator generally acts on issues well before the participants realize anything is wrong, ensuring a positive TelePresence experience for the participants.

Customer Satisfaction/Results to Date

Marist stakeholders and key users were closely involved with the planning and implementation of the TelePresence system, including use case development, system and location selection, and funding approval. Additionally, the IT technical team identified several key indicators to ensure that the system infrastructure and endpoints met the college’s requirements. The key indicators were high-definition picture, improved sound, content sharing, location independence, and choice of endpoints (PC, Mac, desktop, or mobile).

Evaluation assessment is by participant feedback. When the TelePresence room is used, reviews are consistently glowing, and the high-definition video quality and spatial audio allow participants to forget that they just took part in a videoconference. Users feel as if they are all in the same room. The technology melts into the background and allows the participants to fully engage in the meeting. Support by the IT technical team also allows for the participants to feel at ease.

One of the unanticipated problems encountered was a hardware component

crash. Even though a hardware problem is a common occurrence, the timing of the problem was most unfortunate. The Friday before the first series of executive interviews were to take place, which were scheduled on Monday, the VCS Expressway, a system component that allows for external video connection, crashed. The IT technical team worked with Cisco to get the new hardware delivered on Saturday, configured, tested, and back to normal operation in time for the first scheduled call. Redundancy has since been added to all critical system components to prevent further vulnerabilities.

As the use cases for the Florence campus increase, the Internet connection to the Florence campus has presented more challenges. Unlike the robust Internet connection at the Marist main campus, the Florence campus lacks the bandwidth, consistency, and reliability, which are critical to quality video calls. The college is working to improve the Internet connection at the Florence campus to allow for increased usage with quality and reliable video calls.

Ongoing and Future Enhancements

Since the installation, Marist is making an ongoing effort to fortify and extend the TelePresence infrastructure. IT has since added redundancy to all critical system components and rolled out video clients for desktop and mobile devices. Since the college’s TelePresence infrastructure is built to support heterogeneous endpoints, the TelePresence room will continue to thrive and be integrated into meetings with mobile and desktop devices, further enhancing collaboration. Plans are underway to invite subject matter experts into classrooms using various video endpoints. Future enhancements include Web conference integration, single number reach, and automatic conference scheduling.

Direct questions to Christine Mulvey, director, special projects, telecom, and networking, Marist College, at christine.mulvey@marist.edu.

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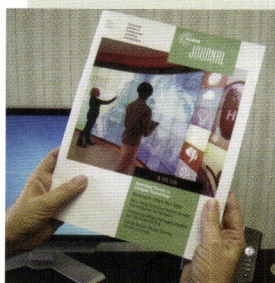
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Is there an application or program that resolved some really tough issue for you?

The next two issues of the *Journal* for 2014 will consider some very interesting topics:

- **Fall: Campus Technology Profile 2014**
- **Winter: Maintaining Security and Privacy in a Very Public World**

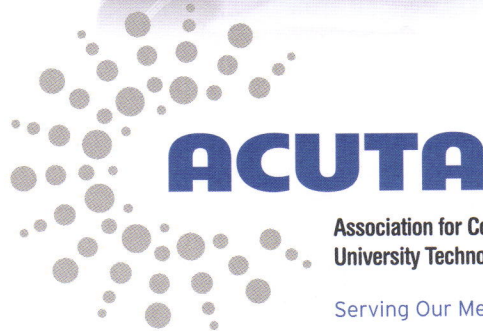
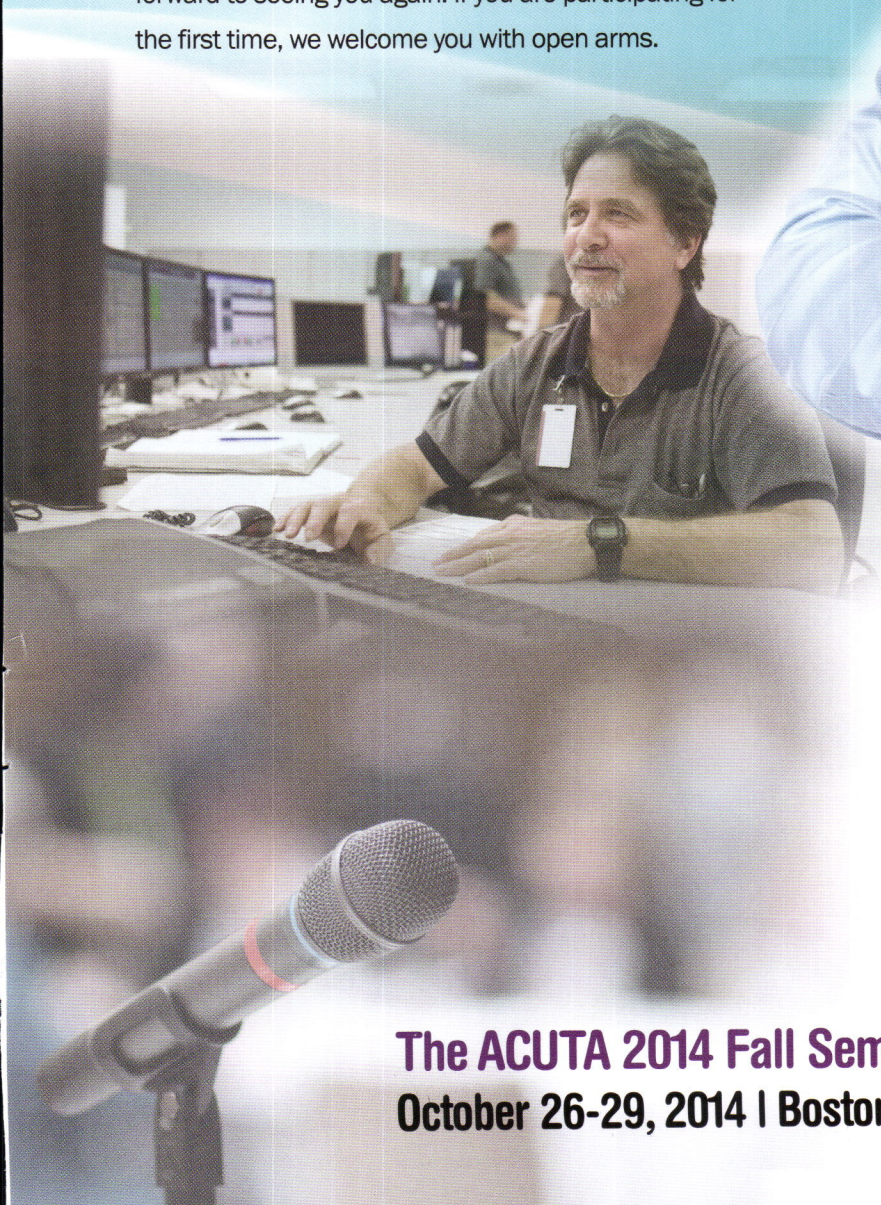
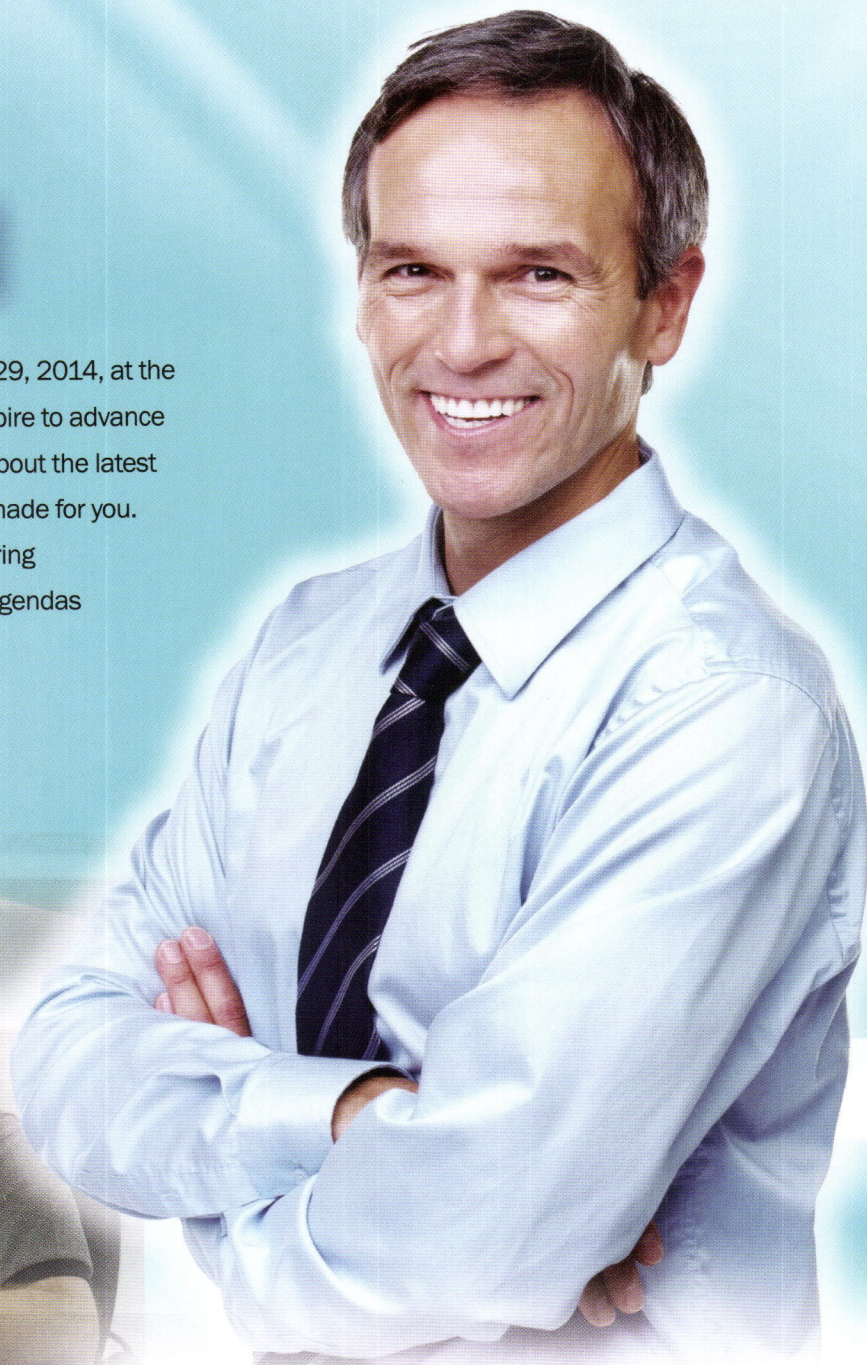
You are cordially invited to share your own campus story with other members via the *ACUTA Journal*. If you don't have time to write it, just **contact editor Pat Scott** at pscott@acuta.org, and she will connect you with someone who will work with you to get this done.

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